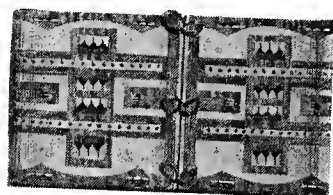


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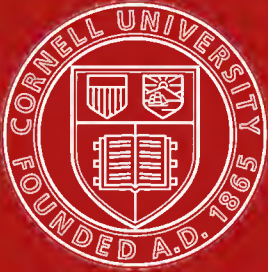


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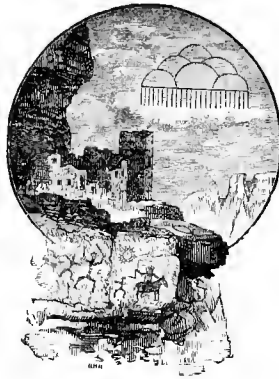
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ANTIQUITIES OF THE UPPER VERDE RIVER AND WALNUT CREEK VALLEYS, ARIZONA

BY

JESSE WALTER FEWKES

EXTRACT FROM THE TWENTY-EIGHTH ANNUAL RE-
PORT OF THE BUREAU OF AMERICAN ETHNOLOGY



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CONTENTS

	Page
Introduction.....	185
Ruins on the upper Verde River.....	187
Ruins at the mouth of Oak Creek.....	188
Cliff-houses of the Red Rocks.....	194
Cliff-house at the mouth of Black's Canyon.....	197
Ledge-houses near Jordan's ranch.....	198
Ruins in Sycamore Canyon.....	199
Ruins in Hell Canyon.....	200
Ruins near Del Rio.....	201
Ruins near Baker's ranch house.....	201
Ruin near the mouth of Granite Creek.....	202
Limestone Butte ruin.....	204
Ruins on Walnut Creek.....	206
Historical account.....	206
Fort below Aztec Pass.....	210
Ruins near Drew's ranch house.....	211
Ruins near Ainsworth's ranch house.....	211
Ruins near Shook's ranch house.....	211
Ruin near Marx's ranch house.....	213
Ruin near sheep corral, below Marx's ranch.....	214
Ruins six miles below Marx's ranch.....	215
Fort on Indian Hill near Prescott.....	215
Forts near Frog Tanks, Agua Fria River.....	215
Conclusions.....	216
Kinship of early inhabitants of Walnut Creek and upper Verde Valleys....	216
Age of Walnut Creek and Verde Valley ruins.....	219

ILLUSTRATIONS

	Page
PLATE 79. Montezuma Castle and outlet of Montezuma Well.....	187
80. Montezuma Well.....	187
81. Ruins at the mouth of Oak Creek.....	188
82. Cavate rooms overlooking Oak Creek.....	188
83. Cavate rooms overlooking Oak Creek.....	188
84. Cavate rooms overlooking Oak Creek.....	188
85. Ruin below Marx's ranch, and Palatki.....	196
86. Palatki, and basalt columns on the upper Verde River.....	196
87. Cliff-houses on the upper Verde River.....	197
88. Cliff-houses on the upper Verde River.....	198
89. Limestone Butte and Cornville ruins.....	204
90. Limestone Butte ruin.....	204
91. Limestone Butte ruin.....	204
92. Old Camp Hualapai and Mount Hope.....	206
93. Views in Walnut Valley.....	207
94. Views in Big Burro Canyon.....	209
95. Ruins of two ancient forts.....	210
96. Fort below Aztec Pass.....	210
97. Fort below Aztec Pass.....	210
98. Terrace-ruins in Walnut Valley.....	211
99. Walnut Valley ruins.....	211
100. Ruin six miles below Marx's ranch.....	215
101. Fort and pictographs.....	215
102. Trincheras at Frog Tanks ruins.....	216
 FIGURE 55. Ground plan of pueblo on bluff overlooking Oak Creek.....	 189
56. Ground plan of cave rooms on Oak Creek (western end and middle).....	191
57. Ground plan of cave rooms on Oak Creek (eastern end).....	193
58. Ground plan of Palatki.....	196
59. Ground plan of Honanki.....	196
60. Ground plan of cliff-house at the mouth of Black's Canyon.....	197
61. Ground plan and section of ledge-house near Jordan's ranch.....	199
62. Ground plan of cliff-dwelling at Baker's ranch.....	202
63. Ground plan of fort near the mouth of Granite Creek.....	203
64. Ground plan of Limestone Butte ruin.....	205
65. Ground plan of fort below Aztec Pass.....	210
66. Ground plan of fort overlooking Shook's ranch.....	212
67. Ground plan of terrace-ruin near Shook's ranch.....	213
68. Ground plan of terrace-ruin on Marx's ranch.....	214

ANTIQUITIES OF THE UPPER VERDE RIVER AND WALNUT CREEK VALLEYS, ARIZONA

By JESSE WALTER FEWKES

INTRODUCTION

The following pages are more in the nature of a preliminary report than an exhaustive account of the antiquities of the valleys of the upper Verde River and Walnut Creek. This report deals with areas little known archeologically, although, by reason of their geographic positions, presenting to the student of the prehistoric culture of Arizona most interesting problems. The aim is to consider types rather than to enumerate many examples of the same kind of ruins. The present discussion is confined for the greater part, though not entirely, to architectural features.

The reader is reminded that the antiquities of these valleys have not been wholly neglected by former students. Ruins believed to be prehistoric were reported from the Verde many years ago, and those on the lower Verde have been described monographically by Mr. Cosmos Mindeleff.¹

The antiquities of the region bordering the Verde River from Camp Verde to the point where it discharges its waters into the Salt naturally resemble those of the other tributaries of the latter, although the geologic conditions on the upper Verde have led to certain architectural differences. The locality of the ruins here considered is the western frontier of the ancient Pueblo country. The inhabitants of this region, an agricultural people, were subject to attack by powerful nomadic tribes. Here, where defensive structures were necessary, we should naturally look for a relatively large number of forts or fortified hilltops. The upper Verde River and Walnut Creek flow through a part of Arizona occupied to within a few years by the Yavapai, a more or less nomadic tribe of mixed blood, who reasonably may be regarded as descendants of the prehistoric house builders. Descendants of other survivors of prehistoric times may be looked for among several groups of modern Indians of Yuman stock—the Walapai and the Havasupai, especially the latter, now living in the depths of Cataract Canyon, a branch of the Grand Canyon of the Colorado,

¹In 13th Ann. Rep. Bur. Ethnol.

where they formerly were driven for protection. According to Major Powell, these people have legends that their ancestors inhabited villages and cliff-houses, and they claim to be descendants of the aboriginal inhabitants of the cinder-cone dwellings near Flagstaff. There is said to be a ruin north of Seligman, Arizona, which they likewise claim as remains of a former home.

The records available constituting the written history of this part of Yavapai County are not very extensive and shed little or no light on its archeology. Western Arizona was visited in 1583 by Antonio de Espejo and was traversed nearly a quarter of a century later by Juan de Oñate, who penetrated as far as the mouth of the Colorado River. Forty years before Espejo the explorer Alarcon at the farthest point reached on his trip up the Colorado heard of stone houses situated in the mountains to the east, and no doubt Father Garcés in 1776 visited some of these villages in his journey from the Colorado to the Hopi villages. The routes of the early Spanish explorers in this region have not yet been very accurately determined; but it is probable that they made use of old Indian trails, one of which ran from the Verde to the Colorado, followed Walnut Creek, and went over Aztec Pass to the sources of the tributaries of the Santa Maria and the Bill Williams River, which flow into the Colorado. Although the accounts of these early travelers are vague, one fact stands out in relief, namely, that the region was populated by Indian tribes, some of whom were agriculturists and sedentary, who constructed stone houses of sufficient size to attract the attention of the explorers. But it was not until early American explorers visited the Southwest that knowledge of this region took more definite form. The Government reports of Sitgreaves in 1853, of Whipple and others in 1853-1854, and of the Wheeler Survey in the '70's drew attention to the ruins, and the establishment by the War Department of a fort on the Verde (moved in 1861 to a near-by site and abandoned in 1891) opened this interesting region to students of archeology connected with the Army. The presence of the camp at Fort Hualapai seems to have led to no scientific results so far as archeology is concerned, although situated in the midst of a valley containing many ruins.¹

¹ Consult the following:

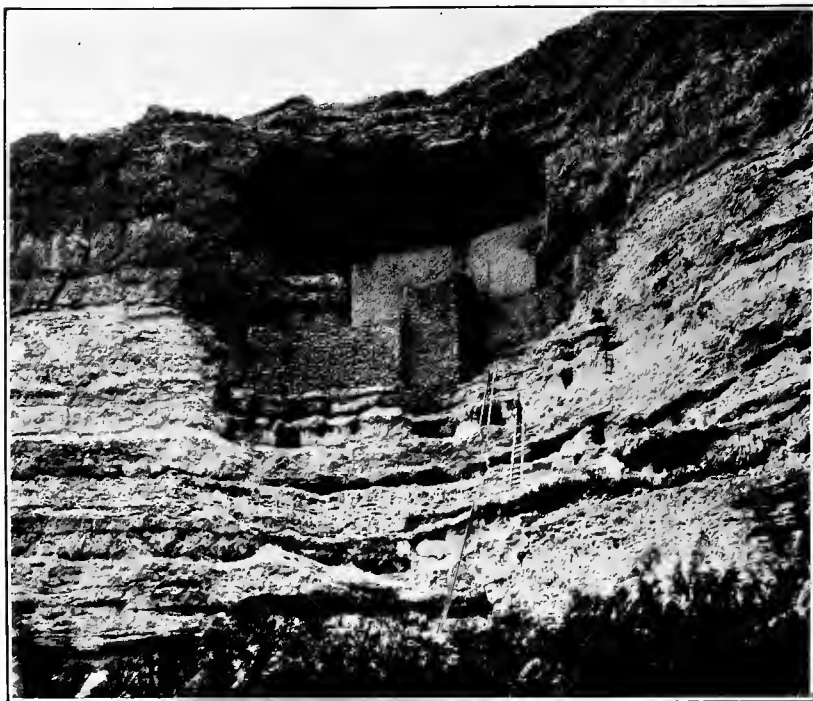
Sitgreaves, L., Report of an Expedition down the Zuñi and Colorado Rivers. *Sen. Ex. Doc. 59*, 32d Cong., 2d sess., Washington, 1853.

Reports of Explorations and Surveys . . . from the Mississippi River to the Pacific Ocean, vol. III, Washington, 1856. ("Whipple Survey.")

U. S. Geographical Surveys of the Territory of the United States West of the 100th Meridian. *Annual Reports*, Washington, 1875-78. ("Wheeler Survey.")

Hoffman, Walter J., Miscellaneous Ethnographic Observations on Indians Inhabiting Nevada, California, and Arizona. In *Tenth Ann. Rep. Hayden Survey*, Washington, 1878.

Mearns, Edgar A., Ancient Dwellings of the Rio Verde Valley. In *Pop. Sci. Mo.*, XXXVII, New York, Oct., 1890.



MONTEZUMA CASTLE (ABOVE) AND OUTLET OF MONTEZUMA WELL



MONTEZUMA WELL

The buildings herein considered have few points of likeness to New Mexican pueblos;¹ in details they are more nearly related to the ruins of habitations called *jacales*, on the Gila and its tributaries. The forts or fortified hilltops suggest the *trincheras* of Sonora and Chihuahua, in northwestern Mexico, and present architectural features distinguishing this type from true pueblos of New Mexico, Colorado, northern Arizona, and Utah, the fort or fortified hilltop being a southern and western rather than a northern and eastern type of structure.

Comparison of the ruins along the upper Verde with those on or near Walnut Creek shows clearly the influence of environment on human habitations. In the former region cliff-dwellings and cave habitations predominate, the latter because they could be easily excavated in the soft rock, whereas in the Walnut Creek basin the formations consist of granite and basalt. The construction of cliff-houses or cave-dwellings here being impossible, they are replaced by forts. Judging from the size and number of these forts, the conflicts between the inhabitants and the hostile tribes must have been severe.

RUINS ON THE UPPER VERDE RIVER

All evidence indicates that the upper part of the Verde Basin, like the middle and lower sections, had a considerable aboriginal population in prehistoric times. The valleys of the tributaries of the Verde also show evidences of former occupancy, almost every high hill being crowned by a ruin. The walls of some of these structures are still intact, but most of them are broken down, although not to so great an extent that the ground plan of the rooms can not be fairly well traced. Many river terraces, or elevated river banks, where agriculture was possible, are the sites of extensive ruins, as indicated by rows of foundation stones.

The most important and typical ruins along the middle Verde are Montezuma Castle and the aboriginal shrine, Montezuma Well, which are so well known that the author has merely introduced illustrations (pls. 79, 80) of them for comparative purposes.

The present record of unpublished studies begins with the consideration of cave-dwellings at the mouth of Oak Creek, from an archeologic point of view one of the least known groups of cave-dwellings in the Verde Valley.

¹ The author has repeatedly pointed out a distinction between the type of ruin called *jacales*, characteristic of southern and western Arizona, and that known to archeologists as "pueblos," so abundant in New Mexico.

RUINS AT THE MOUTH OF OAK CREEK

The cavate rooms (pls. 81-84) in the bluff overlooking Oak Creek are good examples of cave domiciles artificially excavated in cliffs. This cluster of rooms, accompanied by a building above, is situated in the angle formed by Oak Creek and the Verde, about 50 yards from the Cornville-Verde road, having a wide outlook across the valleys of both streams. Although not so extensive as the cavate lodges found lower down the Verde, and somewhat smaller than most similar caves in the Rio Grande region, this cluster is representative of Verde Valley cavate lodges.

The rock of which the bluff is composed is a friable tufaceous formation, superficially much eroded by weathering. This rock is so soft that it could be readily worked with stone implements, as shown by certain peckings on the vault of the roof and on the walls of the rooms. Judging from the nature of the rock, it is probable that the face of the bluff above the river has been worn away considerably since the caves were deserted; the front walls have changed somewhat even in modern times.

Although these artificial caves have been known for some time, especially to people living in the vicinity, little detailed study has been given to them by archeologists. In his report on the lower Verde ruins, Mindeleff does not mention or figure them, and they are not discussed in other accounts. In 1898 the present author directed attention to the interesting character of these caves.¹

A marked feature of cavate rooms in Arizona² is the almost unexceptional association with them of buildings constructed on the talus at their bases or on the mesa above them. Associated with the Oak Creek caves, as with the cavate dwellings of Clear Creek, lower down the Verde, there is a building (pl. 81) on the mesa above but none on the talus below. Although at present much broken down, this building presents strong indication of long habitation and is believed to have been occupied contemporaneously with the caves below, possibly by the same clans.

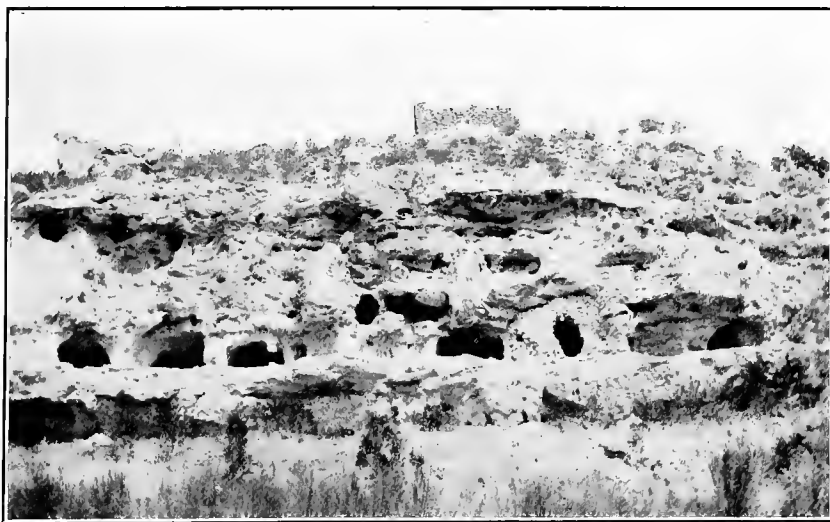
If the cavate rooms and the pueblo on the mesa were inhabited synchronously, the suggestion naturally occurs that they may have had two distinct uses: possibly one was for ceremonial, the other for secular, purposes; or one was for storage of food and the other for dwelling purposes. The author inclines to the belief that each of these two types was devoted to a distinct use, but he is unable definitely to substantiate this hypothesis. The ruin (pl. 81) on top of the bluff overlooking Oak Creek was an extensive village resembling a pueblo; some of its walls are well preserved. One can hardly

¹ In *17th Ann. Rep. Bur. Amer. Ethnol.*

² Similar caves found on Clear Creek resemble in general those on Oak Creek, and there is no reason to doubt the tribal identity of the inhabitants of the two localities.



a, RUIN ON THE BLUFF ABOVE OAK CREEK CAVES



b, OAK CREEK CAVES

RUINS AT THE MOUTH OF OAK CREEK

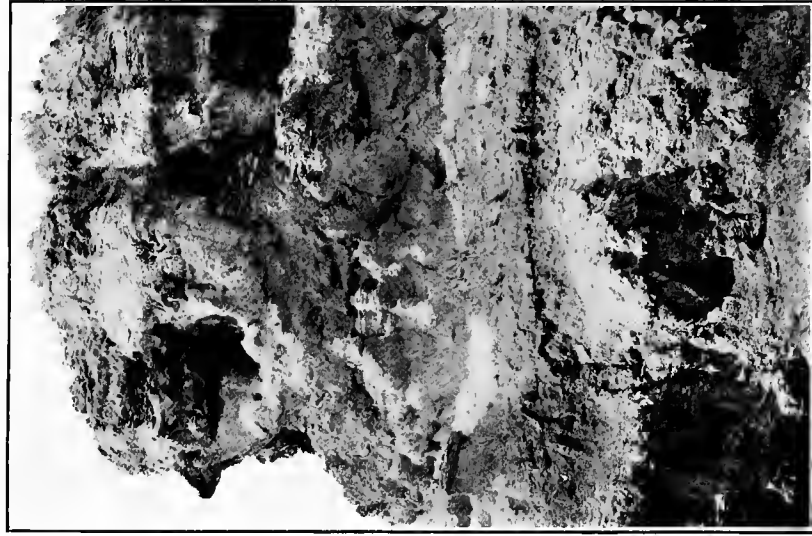


a, MIDDLE SERIES

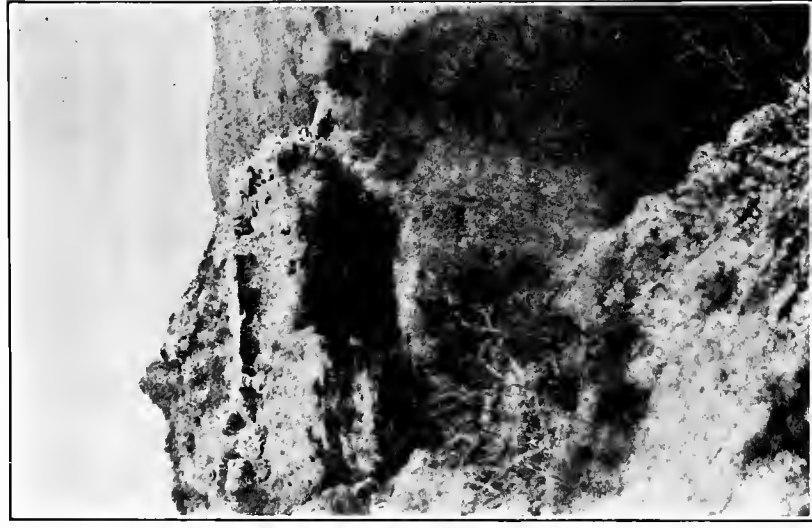


b, EASTERN END

CAVATE ROOMS OVERLOOKING OAK CREEK



a, EASTERN END



b, WESTERN END

CAVATE ROOMS OVERLOOKING OAK CREEK



CAVATE ROOMS OVERLOOKING OAK CREEK

suppose this structure to have been inhabited by people hostile to those occupying the cliffs below, nor is it reasonable to regard its walls as of a later or an earlier period of construction. It is known that a division of rooms into kivas and living quarters is a constant feature in most modern, and in some ancient, pueblos.¹ Possibly there was a corresponding duality in this cluster, the cavate lodges and the pueblo on the bluff having different functions.

While most of the walls of the Oak Creek pueblo have fallen, a few of the rooms are fairly well preserved. These are situated on the south side, rising from the rim of the precipitous bluff; the descent

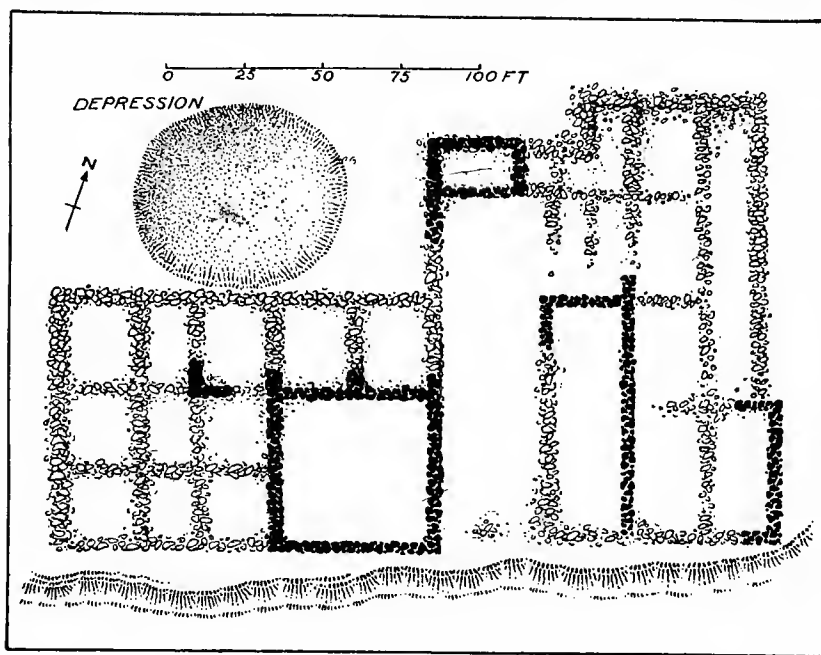


FIG. 55. Ground plan of pueblo on bluff overlooking Oak Creek.

on the north side is more gradual. An examination of the ground plan (fig. 55) shows that the total length (measured east and west) is 231 feet and the breadth 135 feet. Most of the rooms are fairly large; their walls are of undressed reddish-colored stones, bearing evidences that they were formerly plastered. The highest wall still standing is about 20 feet, while several walls are 15 feet, in height. The positions of projecting floor beams and of apertures which formerly received such beams indicate that the structure in its highest part originally contained three stories and was a pueblo.²

¹ It is known that there are no circular kivas in Verde ruins, and the rectangular ceremonial rooms (*kivas*) in this valley have not yet been differentiated from habitations.

² A pueblo is a compact community building, generally more than two stories high and terraced, the stories above the first having lateral entrances.

In all the outlines of rooms that have been traced there are no evidences of kivas (subterranean chambers specialized for ceremonial purposes), but at the northwestern corner, outside the walls, is a circular depression suggesting a former reservoir. Viewed from below or from the left bank of Oak Creek, the ruin with the line of cavate rooms beneath and the wall of the pueblo crowning the bluff forms a striking picture, as shown in the accompanying illustrations (pls. 81, *b*; 82). The caves below—that is, the rooms excavated in the side of the bluff—will be considered first.

The openings into these cavate lodges appear at two levels, those in the lower row being the more numerous. The front wall of the upper row has been almost completely destroyed by the elements. Three sections may be distinguished in the lower or main line of cavate rooms—western, middle, and eastern. While in general style of construction the rooms of all three sections are similar, the chambers vary to so great an extent in size, depth to which excavated, and in other particulars as to suggest that they were used for different purposes. The rooms of the western end (pl. 83), which are larger than those of the other two sections, are more easily approached. The cluster of rooms at the eastern end (pls. 83, 84) can not be entered from the others, but is approached by climbing the bluff (pl. 84) above the Cornville road. The broken openings of the western and middle sections face southward beyond Oak Creek, while those at the east face more toward the east.

In order to comprehend more fully the character of the site of these excavated rooms, let us consider a high cliff or bluff (pls. 83, 84) with a river flowing along its base, bordering which is a low talus of fallen stones, the débris from the wall above. From the top of this talus to the level of the floors of the cavate rooms is about 15 feet. The pathway follows a low bench in the cliff a few feet below the floor level, at too great a distance, however, for one to climb to the rooms, except at two points. Viewed from a level place across the creek the lines of cavate rooms appear as rows of irregularly shaped holes in the side of the cliff (pl. 81, *b*). The jagged openings indicate former entrances of caves artificially excavated in the rock, the marks of the workers' tools being visible on the walls.

The average depth to which these caves are excavated is 20 feet, and the whole length of the western and middle parts is about 207 feet, the former being 183 feet and the latter 24 feet. Attention is drawn to the fact that each of the 10 rooms composing the western series of cavate rooms is rudely circular or oval in form, none of the corners forming right angles. The floors of most of the rooms are approximately on the same level; their roofs are formed by the roof of the cavity, while the partitions consist of walls of the

rock left in place. There was evidently once a passageway (pl. 83, *b*) along the ledges in front of the line of entrances into the cavate rooms, and it likewise appears that many walls formerly closed the fronts, whose positions are now indicated by great jagged apertures. While only fragments of these front walls remain, it appears from one (in the middle series) still standing (pl. 81, *b*) that walls of this kind formerly extended along the whole length, from floor to roof, and were pierced for entrance.

There is no evidence that a building once stood on the talus in front of this line of cavate lodges (pl. 83, *b*), as found in connection with some similar habitations. The situation of the caves with relation to the cliff above would seem to afford evidence against such sup-

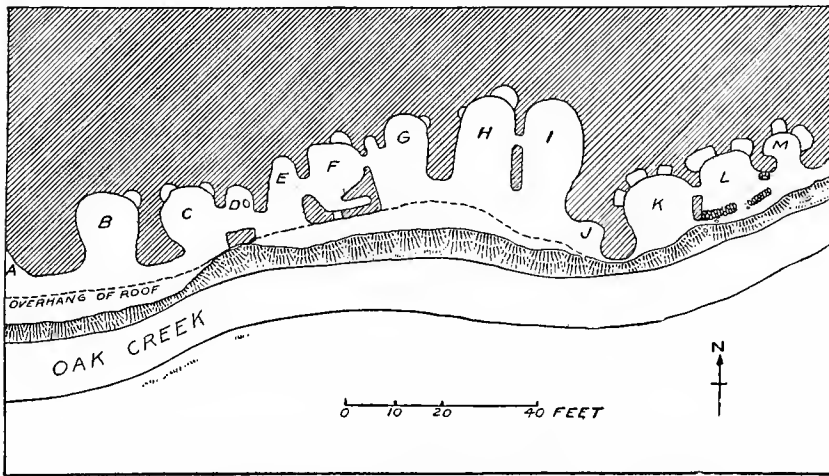


FIG. 56. Ground plan of cave rooms on Oak Creek (western end and middle).

position. It is doubtful also whether there were any rooms on the river bank, which was flooded regularly at high water.

The rooms of the western and middle series of Oak Creek caves are indicated on the ground plan (fig. 56) by the letters A-M. East of room J the partition separating the rooms of the western series from those of the middle series approaches so close to the edge of the cliff that it is impossible to pass around it from one room to another. The entrance to this series of rooms lies at the point A; the aperture is small and bounded by broken walls (pls. 81, *b*; 83, *b*). Once on the ledge, however, one can walk on a projection the whole distance from room A to room J without inconvenience, passing through many connecting passages. Room B, which is somewhat more spacious than A, has in one corner a small closet or niche; in C there are two of these niches, once used for containing food or water. No sign of front walls appears in

A, B, or C. Room D is now, as it probably always has been, really an arched passageway; in its floor is a mortar-like depression in which possibly grain may have been pounded. A solid rock support left by the prehistoric workman, in front of this arched passage, shows on its sides the marks of the builder's stone tools. Room E was apparently an open area, perhaps a recess or court rather than a living room, and, as there are no signs of a front wall, probably served as a porch for room F. At the edge of this porch is a shallow groove cut in the floor, extending at right angles to the edge of the cliff, in which it may be supposed the ancients rested their weapons before they discharged them at the enemy below.¹ The front wall of room F is well preserved, making this room the best in condition in the western series; it has a window and a closet, or niche, in the rear. The pear-shaped passageway into the adjoining room (G) is cut through a solid rock partition, the opening being just large enough for the passage of the human body. The remaining rooms (G, H, I, J), which are open in front, are comparatively large. There is an elevation in the floor forming a platform between rooms F and G, which may be likened to the banquettes in some other cavate lodges.

The middle series of cavate lodges at Oak Creek has three rooms (K, L, M); these are merely a continuation of the western series from which the room first mentioned (K) is separated by undisturbed rock. This room is almost circular in shape; the curve of the roof extends from the highest point (about 6 feet), in the middle, to the floor. The distance on the floor across the broken entrance (there is no front wall) measures 11 feet, and from the face of the cliff to the rear wall 15 feet. The surface of the floor, composed of the natural stone considerably worn, is smooth, almost polished. There are three small niches in the rear of the room, the bottoms of which are slightly below the floor level.

Room L is the only one in the middle series retaining a remnant of the front wall that once closed the entrances of these caves. The distance from this wall to the rear wall is 10 feet, the width of the entrance $14\frac{1}{2}$ feet, and the height of the room 5 to 7 feet. There are two niches in the rear of this room and a shallow groove on the ledge in front, which projects beyond the wall at right angles to its length. Here also are two circular shallow depressions in the rock floor that might have been used as mortars for pounding corn or other seeds.

The doorways or passages between rooms L and K and L and M apparently remain in about the same condition as when the rooms

¹ Similar grooves are found on the East Mesa of the Hopi, overlooking the trail near Hano, which early warriors are said to have used for the same purpose.

were inhabited. Room M has one small niche and two large niches; the open front shows no vestige of masonry.

Excavated in the northeastern corner (pl. 84) of the bluff, somewhat to the east of the middle series of rooms and separated therefrom by an impassable cliff, are the eastern caves, which open toward the east, overlooking the Cornville-Verde road and Oak Creek. There are but three rooms (N, O, P) in this cluster (fig. 57). Room N faces more to the southward than the remainder. This room is irregular in shape. The rear wall is 21 feet from the edge of the cliff at the floor level; the dome-shaped roof, which is blackened with smoke, slopes uniformly backward, the highest point being near the entrance; the average height is 5 feet. A peephole cut through the rock partition looks out over Oak Creek, on the southern side. One of the walls contains a niche. Room N opens into rooms O and P. The

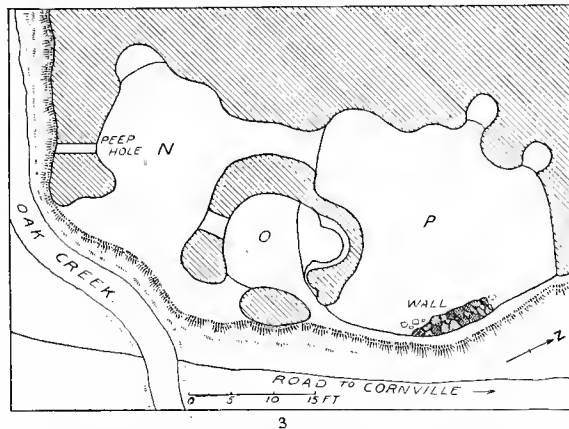


FIG. 57. Ground plan of cave rooms on Oak Creek (eastern end).

former is about 8 feet high; this can be entered by a passageway from front and side. The roof is vaulted; the floor on the north side is slightly raised. Passage through the narrow opening from one of these rooms to another can be effected only by crawling on all fours. Room P has a vaulted roof, averaging 7 feet in height; there are two niches at the floor level, the openings of which are pear-shaped.

In their general features the Oak Creek cavate lodges,¹ as shown in the preceding paragraphs, are not unlike structures of similar character in the Verde Valley. They closely resemble inhabited caves in various parts of the world, excavated in similar rock formations by people of the Stone Age.

¹ No sufficient reason to reject the word "cavate" occurs to the writer nor does he know of any better term that has been suggested by those who object to its use to designate caves of this type. Most of these artificial caves are found in cliffs and may be properly called cliff-dwellings, especially those which have buildings in front of them. They undoubtedly grade into other types, as natural caves having houses built in them, but the term is the most expressive yet suggested for cliff-rooms artificially excavated.

CLIFF-HOUSES OF THE RED ROCKS

The cavate rooms of Oak Creek here described and illustrated are not the only form of cliff-dwellings in the upper Verde region. We find there also walled houses built in caves or in recesses protected by an overhang of the cliff, in which little or no artificial excavation is apparent. The largest known cliff-houses of this type along the upper Verde are situated in the Red Rocks, which can easily be seen across the valley from Jerome, Arizona. The geologic character of these rocks and the peculiar structure of the caves in which they occur impart to these cliff-houses a form resembling the cliff-dwellings of the Navaho National Monument in northern Arizona, the characteristic feature being that the rear wall and in some cases the side walls of the rooms consist of the cave wall. The latter walls are built so that their ends join the rear wall of the cave, unlike pueblos, which are independent of cliffs for support so far as lateral walls are concerned. This type, like the ledge-houses in the Mesa Verde National Park, Colorado, forms a connecting link between cavate lodges and cliff-dwellings, the essential differences being that the former are artificial excavations while the latter are constructed in natural caves.¹ In some of the rooms of cliff-houses of the most independent construction, the walls of the cliff constitute rear or side walls of the dwellings, so this feature can hardly be said to indicate any cultural difference; it is rather an expression of geologic environment, a difference that is worth consideration and may be convenient in classification.

The aboriginal habitations discovered by the author in 1895 in the Red Rocks² belong to the type of cliff-houses rather than to that called cavate lodges, the latter being represented on Oak and Clear Creeks.

Some of the smaller cliff-houses on the upper Verde and its tributaries have a characteristic form, approximating more closely those in Walnut Canyon, near Flagstaff, than they do those of the San Juan drainage.³ This difference is due largely to the character of the rock formation and the erosion of the cliffs in which the first-mentioned dwellings are situated, but is also in part traceable to the composition of the clans that once inhabited them.

In Montezuma Castle (pl. 79), the typical cliff-dwelling in the Verde Valley, there are a main building and several smaller houses, which are duplicated on the Sycamore and other tributaries of the upper Verde.

¹ Several of the Verde cliff-dwellings are simply natural caves whose entrances have been at least partially walled up. The external differences between these and artificial caves closed by a front wall are too slight perhaps to be considered. The method of formation of the cave, whether by nature or by artificial means, is more important as a means of classification.

² See *17th Ann. Rep. Bur. Amer. Ethnol.*

³ The author regards these as closely related to the ledge-houses of the Mesa Verde, although exteriorly they are closely allied to cavate lodges and may be situated in artificially excavated caves.

The cliff-dwellings of the Red Rocks, built as they are in a rock formation different from that in which Montezuma Castle is situated, have certain architectural dissimilarities which are evident from comparison of the illustrations.

Honanki and Palatki, the principal cliff-houses in the Red Rocks, may be visited from Jerome, Arizona, by a more direct road than that from Flagstaff. This road passes through the valley settlements to Cottonwood, near which place it crosses the river. Above and just beyond a ford there are low mesas on which are situated ruins,¹ the walls of which can be seen from the crossing. (Pl. 89.) From the ford the road is fairly good as far as Windmill ranch, and thence is passable with wagons to Black's ranch, at the mouth of one of the canyons of the Red Rocks. As there is always water in this canyon, the mouth of which lies midway between Honanki and Palatki, a short distance from each, it is a favorable place for a permanent camp. The canyons in which the two ruins are situated are waterless.

Several small cliff-houses are found in this and neighboring canyons, and there are many caves showing evidences of former occupancy as mescal camps by Apache or others, but the main interest centers in Honanki and Palatki, the largest cliff-houses yet discovered in the Verde region with the possible exception of Montezuma Castle.

As already stated, it is evident that the character of the rock of the cave in which these two great ruins are situated is different from that in which Montezuma Castle stands. Like the latter, the small cliff-house in Sycamore Canyon is literally built in a recess in the cliffs, the roof of the houses being a short distance below the roof of the cavity.² In Honanki and Palatki, however, the opening is large and more in the nature of a cavern with a slight overhanging roof high above the tallest building. In these ruins there is no refuse-heap back of the inner rooms, the wall of the precipice serving as the rear wall of the room.

The cliff-dwellings of the Red Rocks are more closely related architecturally to those of the Navaho National Monument,³ in northern Arizona, than to Montezuma Castle. They differ also from the ruin at Jordan's ranch, which is in reality a ledge-ruin, being built in a natural cave following the line of softer rock strata, having the front closed by an artificial wall extending from base to roof.⁴

The two ruins, Honanki and Palatki, discovered by the author in 1895, were the first cliff-dwellings in this part of the Verde region made known to science.⁵ At that time photographs of these ruins were

¹ There are two ruins on the mesa above this ford, on the left bank of the river. These can be seen from Jerome with the aid of a field glass.

² The author has not yet determined whether the cave at Montezuma Castle is wholly natural.

³ See *Bull. 50, Bur. Amer. Ethnol.*

⁴ Several ruins of this type occur in the rock under Montezuma Castle; the ruins in Walnut Canyon, near Flagstaff, also belong to this type.

⁵ *17th Ann. Rep. Bur. Amer. Ethnol.*

published, accompanied by descriptions of the various rooms and minor antiquities. The author adds here but little to his former description of the ruins, but has introduced better ground plans (figs. 58, 59) of them than any yet published. Although reports of ruins

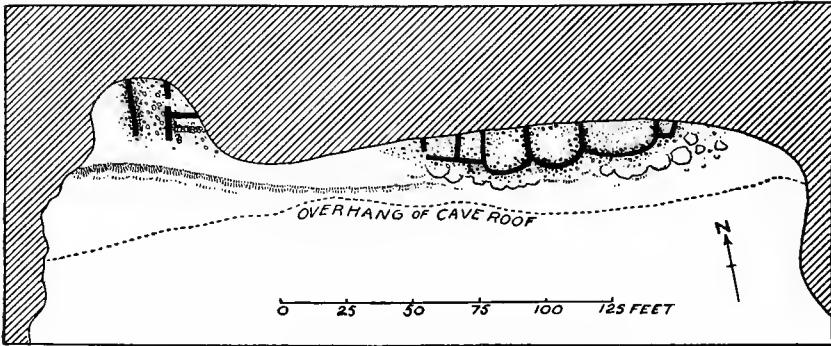


FIG. 58. Ground plan of Palatki.

much larger than these of the Red Rocks, situated higher up on the Verde, were brought to the author in 1895, he is convinced that there is but slight foundation for them. There are undoubtedly several small cliff-houses and many natural caves, as "Robber's Roost,"

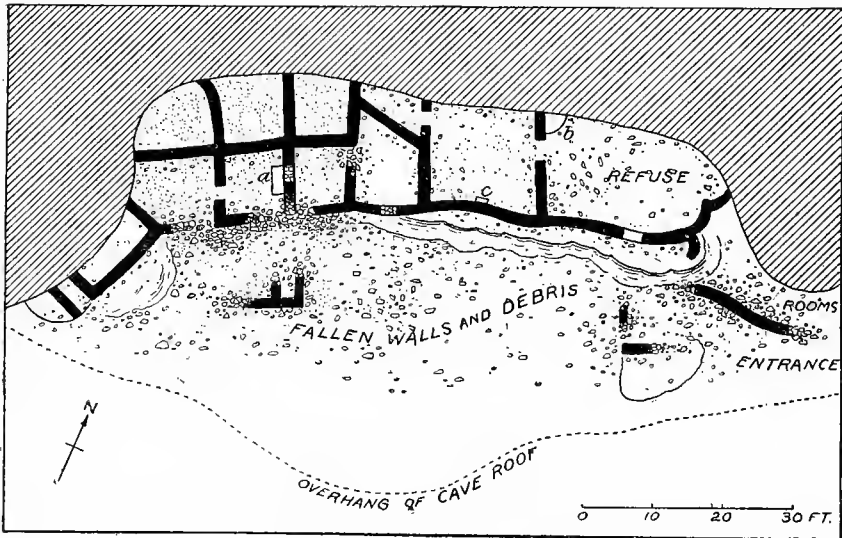


FIG. 59. Ground plan of Honanki.

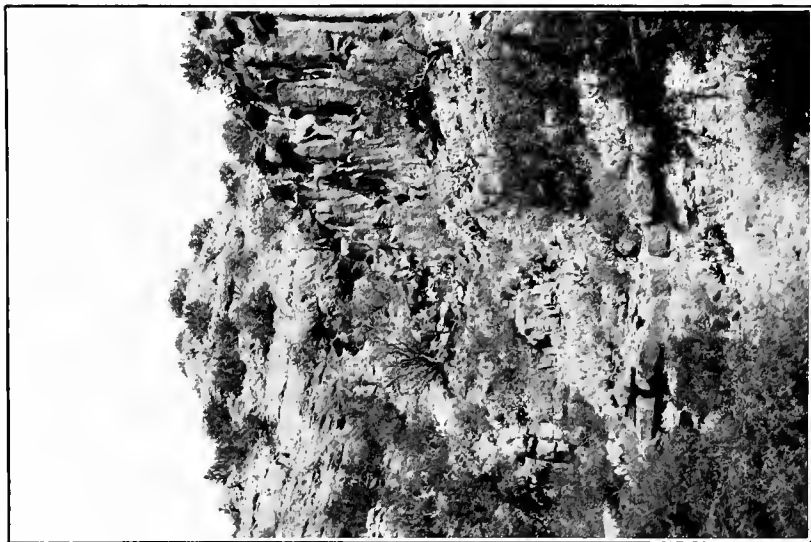
in the Red Rocks, but no cliff-dwellings of great size are to be found between the Red Rocks and the Chino Valley. Palatki (pls. 85; 86, *a*) lies in the canyon east of Black's ranch, a short distance therefrom, and Honanki about the same distance to the west.



RUIN BELOW MARX'S RANCH (ABOVE), AND PALATKI

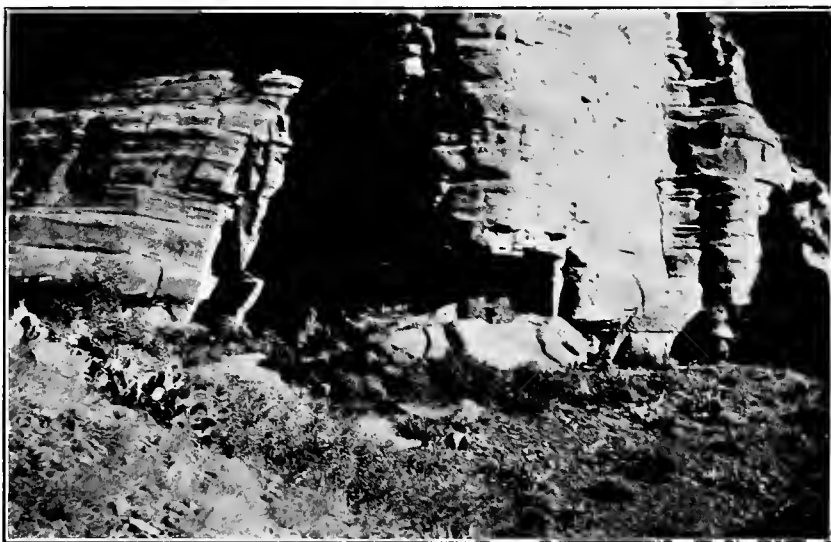


a



b

PALATKI (*a*), AND BASALT COLUMNS ON THE UPPER VERDE RIVER (*b*)



AT THE MOUTH OF BLACK'S CANYON



NEAR JORDAN'S RANCH

CLIFF-HOUSES ON THE UPPER VERDE RIVER

On approaching Palatki from Black's ranch by the trail at the base of the cliff a number of natural caves are encountered that evidently were formerly used by the Apache, as their smoke-blackened walls are decorated with characteristic Apache pictographs.¹ No indications of house walls were discovered in these caves, and there is only scanty evidence of occupancy prior to that of the Apache, which was clearly very recent.

CLIFF-HOUSE AT THE MOUTH OF BLACK'S CANYON

The small cliff-house at the entrance to Black's Canyon, on the west side, is one of the interesting forms of cliff-houses in the Red Rocks, differing from any yet described in the Verde region. The ruin (pl. 87) spans a narrow crevice, resting partly on the top of a detached

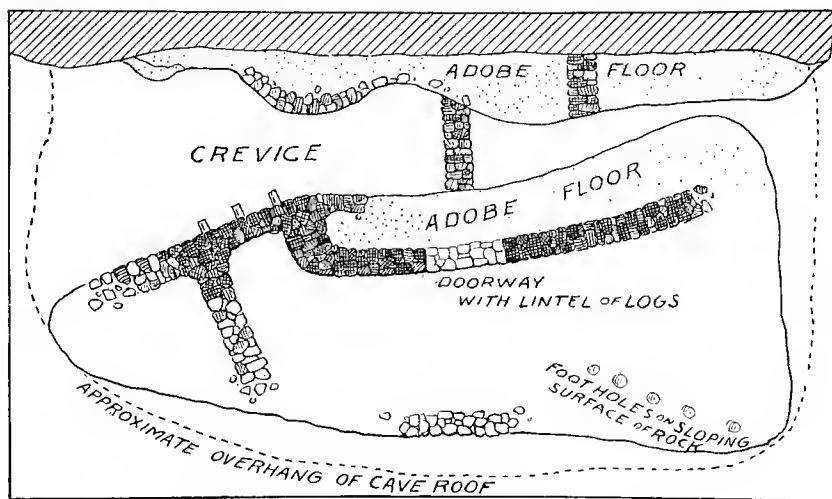


FIG. 60. Ground plan of cliff-house at the mouth of Black's Canyon.

boulder and partly on a ledge under the wall of the cliff above; in other words, the house is situated in part of a recess out of which the boulder has fallen.

Many pictographs, consisting of zigzag figures, dots, and parallel lines, resembling "counts" and rude faces, occur in the neighborhood of this ruin; these are not pecked in the rock surface, as are most ancient Pueblo pictographs, but are painted in white, red, or other pigments. The ground plan of this ruin is shown in the accompanying illustration (fig. 60) and its general appearance viewed from the hills back of the camp in plate 87. This ruin is much dilapidated, most of its walls having fallen; a considerable section, however, containing a doorway or window, can still be seen. The house is

¹ Most of the cliff-dwellers' pictographs are incised, while those made by Apache are painted.

of stone, but there are also fragments of adobe walls and sections of plastered clay floors adhering to the ledge and adjacent parts of the boulder. As before stated, between cliff and boulder is a crevice once bridged by the buildings. Two or three beams project from the top of the boulder opposite the ledge, indicating that the space between the boulder and the sides of the cliff was formerly floored or roofed, the ends of the supporting beams resting on the boulder and the ledge. This floor was evidently supported in part by a stone wall built in the crevice, remains of which are shown in the ground plan. Possibly this wall formerly served as a partition between two small basal rooms occupying the crevice, the remaining walls of which are no longer traceable.

A row of shallow pits cut in the surface and sides of the boulder occupy approximately the position indicated in fig. 60; these served as footholds and apparently furnished the only means by which the inhabitants of this building could gain access thereto.

LEDGE-HOUSES NEAR JORDAN'S RANCH

The small cliff-dwellings near Jordan's ranch, about 6 miles from Jerome, belong to the type known as ledge-ruins, i. e., natural caves of small extent having the fronts closed by walls of masonry. There are several similar ledge-ruins in the valley, but the Jordan ruins are probably the best preserved. Several ruins of this type are found in the cliffs below Montezuma Castle, as shown in plate 79.

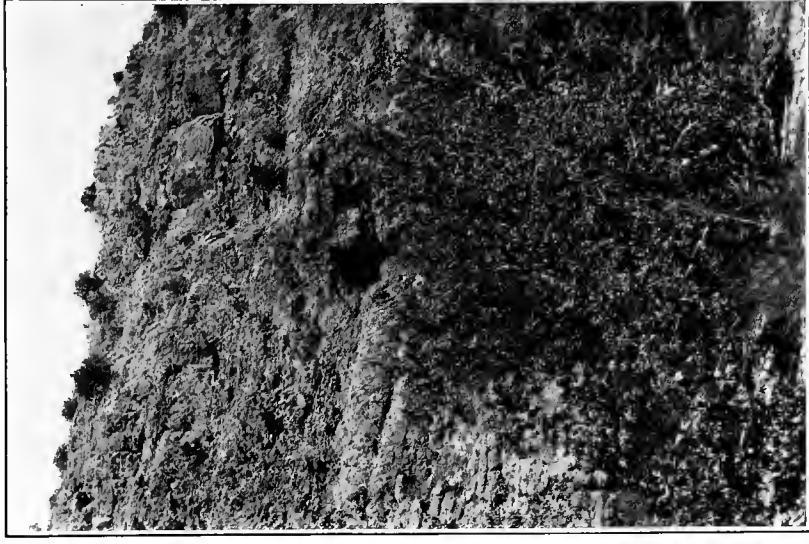
The Jordan ruins are situated in the cliffs on the right bank of the Verde about 50 feet above the river bottom and can be reached by an easy climb over fallen stones. There are several ledge-houses in this locality, three of which face east and the fourth north, all overlooking the river. The soft limestone composing the cliff is here stratified, the strata being slightly tilted and in places very much eroded; the formation is colored white and red. The cave walls are much blackened with smoke. It was possible to enter readily all but one of these houses; the trail leading to the fourth has been obliterated by erosion.

The largest of the Jordan ruins (pls. 87, 88), which is 175 feet in length, extends approximately north and south. About half the front wall and two end walls are still intact but the intermediate section of the front wall is broken. The cliff slightly overhangs the house, forming a roof; the walls extend from the edge of the cliff to the roof. The rear wall of the cliff forms the corresponding wall of the rooms, as indicated in the ground plan (fig. 61)—a characteristic feature of Verde Valley cliff-houses.

On a lower level of the cliff, just beyond the Jordan ruins, are two rooms, with blackened walls, connected by an almost cylindrical



NEAR JORDAN'S RANCH



IN SYCAMORE CANYON

CLIFF-HOUSES ON THE UPPER VERDE RIVER

passageway through the intervening partition. The front wall of one of these rooms is pierced by a round peephole, which commands a view upstream. The walls of this ruin are thick except in front, where they are badly broken down. On their inner plastered surfaces marks of human hands appear.¹

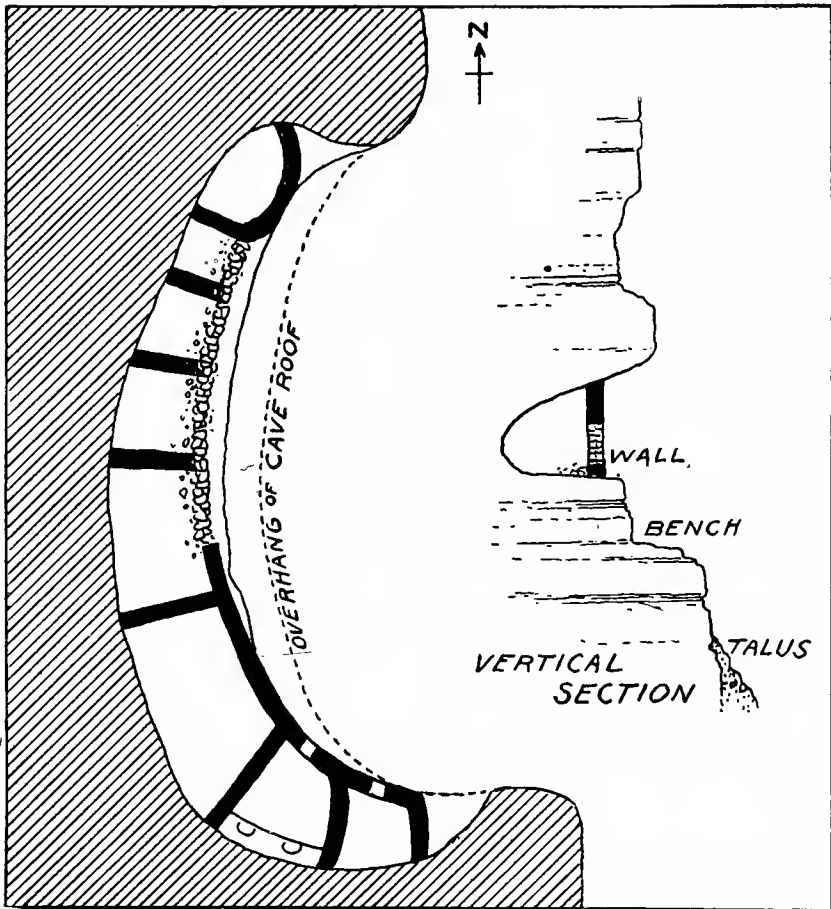


FIG. 61. Ground plan and section of ledge-house near Jordan's ranch (height of front wall about 50 feet).

RUINS IN SYCAMORE CANYON

The presence of ruins in Sycamore Canyon (Dragoon Fork of some of the older maps) was reported, but on investigation the author was unable to find any large buildings on this tributary of the Verde River, although he examined several ruins—forts, cavate rooms, and

¹ These are the ruins about which an imaginary story was published in a Jerome (Arizona) newspaper, later copied into journals of wider circulation, that they were still inhabited.

walled-up caves or cliff-dwellings. Higher up the canyon is called Sycamore Basin; this also is reputed to contain cliff-dwellings and other evidences of former habitation, but was not visited.¹

In Sycamore Canyon, about a mile from the junction of the Sycamore and the Verde, a fine spring bubbles out of the ground, the outflow from which formed a considerable stream at the time of the author's visit. Half a mile farther up the canyon is a well-preserved but inaccessible cliff-house, having an upper and a lower front wall, as shown in the accompanying illustration (pl. 88). This ruin is situated in a cave in the side of the cliff, the approach to which is worn away. The stones of the upper front wall of the inner building are supported by upright logs.

About 2 miles from the junction of Sycamore Creek and the Verde, on both sides of the canyon, even where the walls are steepest, are natural caves showing evidences of former occupancy.² For the greater part the walls in these caves have tumbled down, but remnants of front walls are still standing. Here and there the volcanic rock is of columnar form. (Pl. 86, *b*.) The formation of the cliff in which the caves are situated is uniformly soft and tufaceous; the color is commonly reddish, in places almost white.

Apparently the prehistoric population of Sycamore Canyon was small and the area that could be cultivated was meager.

On a level place to the left of the road from Jerome as one descends to the mouth of the Sycamore there is a pueblo ruin which is much dilapidated.

RUINS IN HELL CANYON

Hell Canyon is a branch of the Verde Canyon and the small stream flowing through the former discharges into the Verde a short distance from the mouth of Granite Creek. The author had been informed that there were extensive ruins of cliff-dwellings in Hell Canyon, but although there are here several stone ruins of the fortress type, referred to by ranchmen as "corrals," there are few remains of cliff-houses. One ranchman declared the Hell Canyon ruins to be the largest on the upper Verde; this may be true, but no ruins of great size were visited by the author. Not far from the junction of this canyon with the Verde is a low bluff of soft stone, suggestive of the Oak Creek formation, which looks as if it once might have been honeycombed with cavate rooms. These have now disappeared, only a hint of their former existence remaining. The rock here is suitable for cavate houses like those at the mouth of Oak Creek, and there is level land adjacent that would serve for agricultural purposes.

¹ There is evidence of the existence of a large ruin on the rim of the mesa or the point of the tongue of land between the Verde and the mouth of the Sycamore, 25 miles from Williams, but this ruin was not visited.

² It is impossible to drive up this canyon, but the trip can easily be made on horseback.

RUINS NEAR DEL RIO

The ruins in the neighborhood of Del Rio, most of which are on the summits of low mounds, have the same general form. Three of these ruins, one on the Banghart ranch, described by Hinton,¹ were visited. Walls of ruined houses, of small size and inconspicuous, are to be seen to both the right and the left of the railroad, near the station.

The ground plan of these ruins has been almost obliterated, as the stones from the fallen walls have been carried away for use in the construction of modern buildings in the neighborhood. Most of these buildings seem to have consisted of small clusters of rooms. Few of them are situated very far from the streams, and the more copious the supply of running water the more extensive are the signs of former aboriginal life. The ruins at Del Rio belong to the Chino series, the characters of which they possess in all essential particulars.²

RUINS NEAR BAKER'S RANCH HOUSE

The Baker ranch lies on the right bank of the Verde about 7 miles above the mouth of Sycamore Creek. Several forts, cave habitations, and gravelly terraced mesa ruins (pl. 99) exist near the house now owned by Mr. Perkins.³

Following up the stream about 2 miles to the Government road, the author observed on a malpais hill, about a mile from the river, obscurely outlined walls of what was formerly a large fort. Within an inclosure bounded by the fallen walls are the remains of several rooms. Although this is not one of the best-preserved or largest forts on the upper Verde, its walls are still breast high. About 2 miles down the Verde from the Baker ranch house is a cave on the walls of which is a circular pictograph painted in black, probably Apache.

A mile down the Verde from Baker's (Perkins') ranch house, on the right bank of the river, are the remains of a cliff-house of considerable size, the ground plan of which is shown in figure 62. A few years ago the walls were in good condition and the structure was then regarded as a fine example of a cliff-house. Owing to the fact that this ruin lies in the surveyed route of the proposed railroad from Cedar Grove to Jerome, most of its walls will have to be destroyed when the road is built. The cave in which the ruin is situated is about 40 feet in depth and about 34 feet in width (from north to south wall) at the entrance; the height of the floor above the creek is 50 feet. On the plain in front of the cave, between the talus and the river, are fallen walls of a small pueblo from which many stones

¹ Hinton, *Handbook to Arizona*, p. 419.

² Del Rio, sometimes called Chino, is not a town but consists merely of a section house on the Santa Fé, Prescott & Phoenix Railroad.

³ Mrs. Baker, who formerly lived here, is reported to have made a collection of archeologic objects, among which is said to have been an obsidian ax.

have been removed recently for use in the construction of a neighboring wall, but enough of the foundation stones remain to enable tracing the general ground plan.

Although this cave is a natural formation, in the rear are niches or cubby-holes evidently artificially excavated. The roof is about 15 feet above the floor of the rooms. The cave floor is covered with fallen stones upon some of which the foundations of the remaining walls still rest. Evidently this ruin has been considerably dug over by relic seekers, for in the fine dust which covers the floors are found charcoal, fragments of pottery, stones showing artificial work-

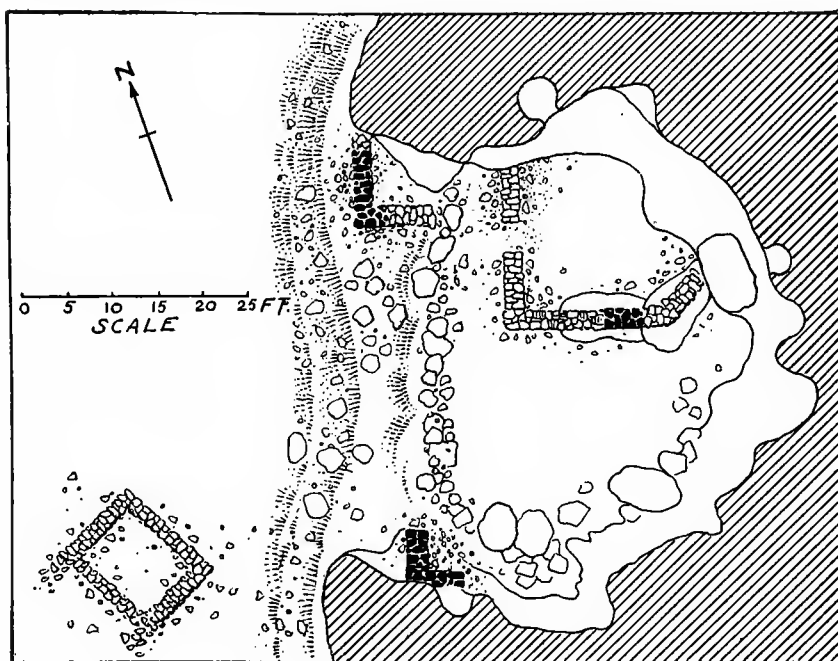


FIG. 62. Ground plan of cliff-dwelling at Baker's ranch.

ing, fragments of corncocks, twine, and other objects. It is said that a few fine specimens have been removed from this débris, but nothing of value was found by the author. The remnants of several plastered walls painted red can still be traced.

RUIN NEAR THE MOUTH OF GRANITE CREEK

Granite Creek, on which the city of Prescott is situated, discharges its waters into the Verde not far from Del Rio. About 2 miles down the Verde from the mouth of Granite Creek, the stream makes an abrupt bend by reason of a volcanic cliff rising perpendicularly from the river. This cliff is crowned by a large fort (pl. 95) of aboriginal

construction. The ruin¹ is situated almost due north of Jerome Junction, from which it can be reached by the road which turns at

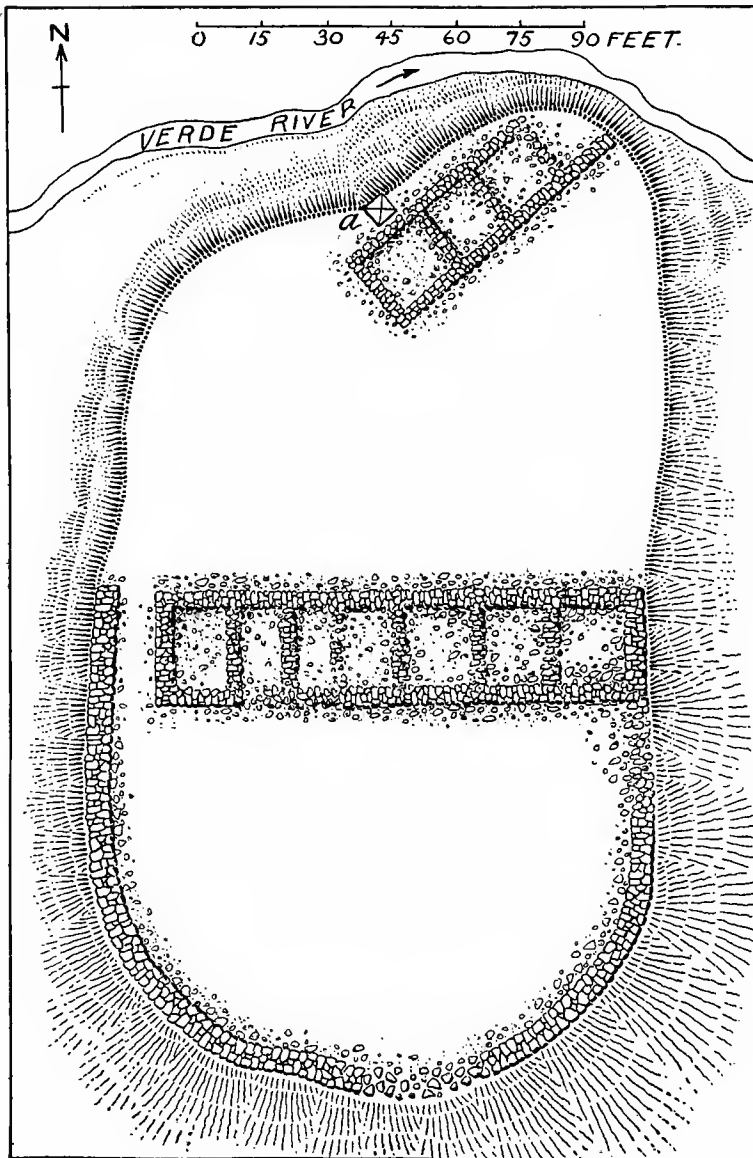


FIG. 63. Ground plan of fort near the mouth of Granite Creek.

Del Rio at right angles to the railroad and continues eastward to the mouth of Granite Creek. A visit can be readily made by wagon

¹ This is probably one of the ruins mentioned by Hinton, in his Handbook to Arizona.

from Del Rio by following the bed of the Verde. The great trachyte cliff rises precipitously about 300 to 400 feet above the river on the eastern, northern, and western sides, but on the south the approach, although steep, is more gradual; even here access is difficult. Approached from the river, the ruin presents the appearance of a castle towering above and commanding a view of the stream.

The general ground plan (fig. 63) of the ruin is roughly oval, with its longer axis extending north and south. The northern part is without a high wall, the precipice, from the edge of which it rises, serving the purpose of defense in that direction; but the southern part is protected by a high massive wall 320 feet long, fairly well preserved, and provided with an entrance at the southern extremity. The short axis of the ruin, measured from one extremity of the south wall to the other, is about 125 feet in length.

The northern and southern sections of the ruin are separated by a row of several rectangular rooms. The distance of these structures from the southern entrance is 87 feet, and from the nearest point of the northern section, 65 feet. The section south of these rooms appears to have been an enclosed plaza, without houses. In the northeastern part of the northern section are several rooms the combined length of which is 61 feet.

The walls of this fort and of the included buildings average 6 feet in thickness; they contain no mortar.

This ruin is evidently the one mentioned by Hinton, as follows (pp. 419-20):¹

Four miles below the place described, there is a hill overlooking the Verde River, with a series of ruins of stone houses, inclosed by a stone wall on the south side, which in places is 20 feet high and 12 feet wide. The other sides of the hill are abrupt and precipitous, and 200 to 300 feet perpendicular.

LIMESTONE BUTTE RUIN

The Limestone Butte ruin (pls. 88-91), situated about 6 miles west of Jerome Junction and 16 miles north of Prescott, is one of the best preserved of the hilltop forts. It crowns a limestone ridge commanding fine views of the valleys to the east and west and of the distant Juniper Mountains to the northwest, with the Chino Valley and the distant peak called Pichacho. To the west lies Williamson Valley and to the south the mountains surrounding Prescott. The approach to this ruin on the east is more abrupt than that on the west. An old Government road which runs through Aztec Pass lies at the base of the ridge on top of which the ruins stand. This ridge rises 500 to 600 feet above the neighboring valley.

The general plan (fig. 64) of the Limestone Butte ruin is rectangular, the orientation slightly east of north. The walls are solid

¹ Hinton. Richard J., *Handbook to Arizona*, San Francisco and New York, 1878.



LIMESTONE BUTTE (ABOVE) AND CORNVILLE RUINS



a, FROM THE NORTH



b, FROM THE SOUTH



c, WESTERN WALL

LIMESTONE BUTTE RUIN



a, INTERIOR



b, WESTERN SIDE (FROM BELOW)

LIMESTONE BUTTE RUIN

masonry, well preserved, averaging about 8 feet in height and $4\frac{1}{2}$ feet in width. On the western side the foundations conform more or less with the edge of the cliff, the face of which is sinuous; the other walls are fairly straight. The inside north-south measurement is 69 feet; the east-west, $27\frac{1}{2}$ feet.

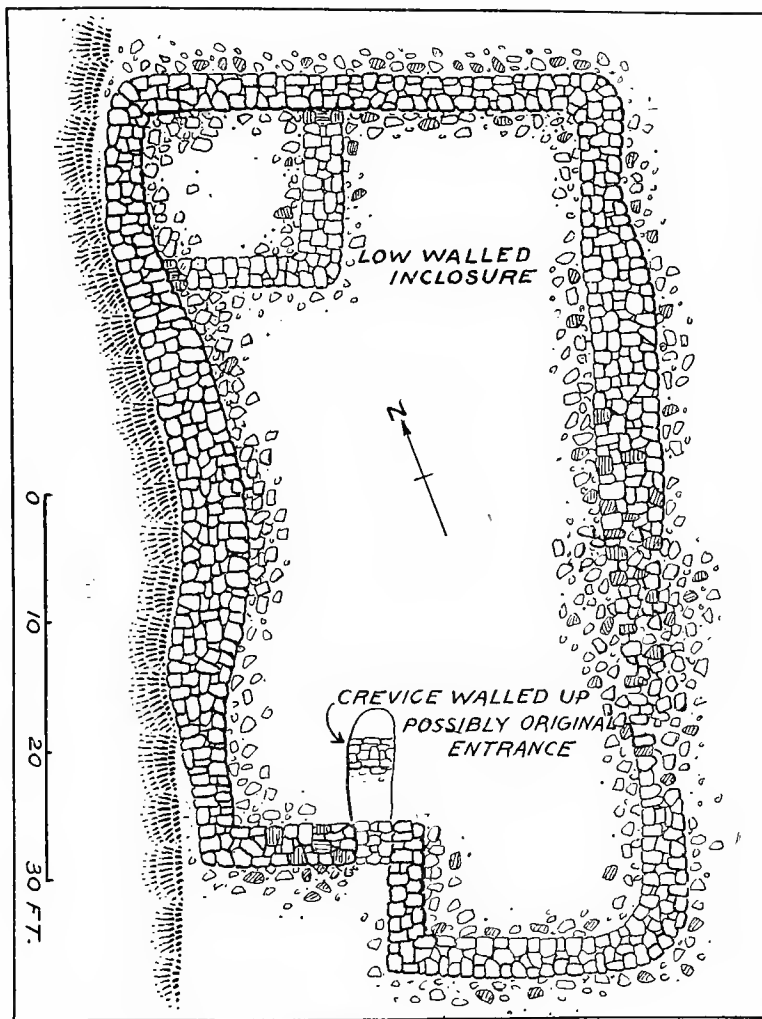


FIG. 64. Ground plan of Limestone Butte ruin.

No trace of mortar remains and the component stones of the walls are roughly dressed. The northern angle is almost wholly occupied by a small low-walled room, but the rest of the inclosure is without debris; the floor is solid rock. At a southwestern angle of the surrounding wall there was originally a crevice in the floor, since

walled up, suggesting the former presence of an entrance from below, but the adjacent walls have fallen to so great an extent that its purpose is difficult to determine. Below the western wall, the curve of which is shown in the accompanying views (pls. 90, *c*; 91, *b*), is a rude wall suggesting a cave-room, the other walls of which are obscurely indicated.

Viewed from the north, almost entire walls are seen, the foundations of which at certain places are large projecting boulders. (See pl. 91, *a*, *b*.)

RUINS ON WALNUT CREEK

Walnut Creek is a small stream the waters of which at times flow into the Chino, but which, on the occasion of the writer's visit, were lost in the sands about 8 miles below old Camp Hualapai. In the report of Whipple's reconnoissance the stream bears the name of Pueblo Creek, from certain "pueblos" on the hills overlooking it, which he described, but the name is no longer applied to it. The ruins of Walnut Creek are of two kinds, one situated on the low terrace bordering the creek, the other on the hilltops. The stream is formed by the junction of two branches and the valley is continuous from Aztec Pass to the point where it merges into Chino Valley.

There is evidence that Walnut Valley had a considerable aboriginal population in prehistoric times. A number of forts and many remains of settlements strewn with pottery fragments and broken stone artifacts were found. Here and there are mounds, also irrigation ditches and pictographs.

A few years ago Walnut Valley had a number of white settlers and a post office,¹ but the families have now dwindled in number to three or four, and the place is characterized chiefly by abandoned houses. Camp Hualapai is deserted, the adobe houses shown in the accompanying illustration (pl. 92) being almost the only reminder of its former existence.

HISTORICAL ACCOUNT

Whipple was the first to mention the numerous ruins ("pueblos" and forts) and other evidences of a former aboriginal population in Walnut Creek Valley. Subsequent to his visit no new observations on them appear in published accounts of the ruins of Arizona, and no archeologist seems to have paid attention to this interesting valley, a fact which gave the author new enthusiasm to visit the region and inspect its antiquities. These seemed of special interest, as Whipple's account was inadequate as a means of determining their relations with other aboriginal ruins in the Southwest. Who built the

¹ The post office was removed to Simmons, in Williamson Valley.



OLD CAMP HUALAPAI AND MOUNT HOPE



NEAR AINSWORTH'S RANCH



AZTEC PASS

VIEWS IN WALNUT VALLEY

structures and who are the descendants of the builders, are important questions.

In ancient times there was a well-worn Indian trail from the Colorado River, past Mount Hope, through Aztec Pass, down Walnut Creek, and across Williamson and Chino Valleys to the Verde. This trail, used by later American explorers, was doubtless the one followed by some of the early Spanish missionaries in their efforts to reach the Hopi Indians from the California side. Although the route taken by early Spanish travelers in crossing the country west of the Hopi villages is more or less problematical, it would seem that Oñate, in 1604, may have crossed the divide at Aztec Pass (pl. 93, *b*), and that Father Garcés, 172 years later, may have followed this trail past Mount Hope and down Walnut Creek. The Yavapai ("Yampais") were numerous in this region at that time and much later, as indicated on the few maps and descriptions which have come down to us.

In 1853 Sitgreaves followed the same Indian trail over Aztec Pass, crossing the country afterward traversed by Whipple, but, although he must have seen several ruins in this region, he mentions none, nor do others who followed approximately the same route, namely, Beale's road, known also as the Government road.

There is considerable arable land lying along Walnut Creek (pl. 93), which is continually shifting, owing to the inroads made by the stream, hence it is hardly probable that the flats now seen are those once cultivated by the Indians. It may be for this reason that the ancient farmhouses were built on the tongue-shaped terraces or on gravelly mesas bordering the stream, where the ruins are now found.

The forts were built on the summits of the highest prominences both for protection and for the sake of obtaining a wide view up and down the stream, and it is an instructive fact in this connection that one rarely loses sight of one of these hill forts before another can be seen. By means of a system of smoke signals news of an approaching foe could be communicated from settlement to settlement from one end of Walnut Valley to the other, giving the farmers in their fields skirting the stream opportunity to retreat to the forts for protection.

The ruins in Walnut ("Pueblo") Creek Valley¹ are thus referred to in Whipple's report:

Five miles beyond Turkey Creek we came upon Pueblo Creek, so called on account of extensive ruins of houses and fortifications that lined its banks . . . Wide Indian trails and ruins of extensive fortifications constructed centuries since upon the heights to defend it showed that not only present tribes but ancient races had deemed Aztec Pass of great importance.

¹ The names "Turkey Creek" and "Pueblo Creek," mentioned by Whipple, do not seem to have been generally adopted by white settlers. The stream called by Whipple "Pueblo Creek" is now called Walnut Creek. "Aztec Pass" also is a name but little known to settlers in this region.

The only accounts known to the author, of the ruins in Walnut Valley are the reports of Lieutenant Whipple and Lieutenant Ives,¹ which unfortunately contain but meager descriptions of these antiquities. Most of the writers on the ruins of Arizona do not refer to those found in this valley.

Whipple speaks of several ruins on Walnut (Pueblo) Creek, but his references are too brief even for identification. One of these, said to be situated on Turkey Creek, he characterizes (op. cit., pt. 1, p. 92) as—

dilapidated walls of a tower. The ground-plan was an ellipse, with axes 25 and 15 feet, partitions dividing it into three apartments. The walls must have been large, as they yet remained 5 feet in height, and 6 feet wide. The hill is 250 feet above the river.

This description does not correspond with respect to size, elevation, or general appearance with any ruin visited by the author in this region.

Alarcon ascended the Colorado to the point where it forms a "straight channel between high mountains," possibly the mouth of Bill Williams River, the mountains being situated, as pointed out by Professor Turner, not far from the junction of this stream with the Colorado.

Whipple found near his camp (No. 105) a ruin similar to those here mentioned, of which he wrote (p. 94) as follows:

To obtain a still more extensive view, Mr. Campbell climbed a steep hill, several hundred feet above the ridge of the pass, formed by a short spur from the abrupt termination of the northern mountain chain, and found upon the top ruins of another fortification. Its length was 100 feet. It was 25 feet wide at one end, and 20 at the other. The wall was well built, 4 feet thick, and still remaining 5 feet high. It commanded a view of the pass, and, with proper armament, was well situated to defend and keep possession of it from an enemy. The entrance, 6 feet wide, was from the steepest side of the hill—almost inaccessible. From a fancy founded on the evident antiquity of these ruins, we have given the name of Aztec Pass to this place.

A ruin supposed to be that just described was visited by the author, the results of whose observations, however, differ so much from Whipple's account as to suggest doubt regarding the identity of the remains.

From Walnut Creek the old Indian trail followed by Whipple ascends Aztec Pass, becoming a rough wagon road bordering granitic rocks. West of the pass the country is comparatively level, sloping gradually to a sheep ranch on the Baca Grant, called Oaks and Willows. The high mountain seen from the road for some distance west of Aztec Pass is called Mount Hope (pl. 92).² Beyond

¹ Reports of Explorations and Surveys to Ascertain the Most Practicable and Economical Route for a Railroad from the Mississippi River to the Pacific Ocean. Made under the direction of the Secretary of War in 1853-4. Vol. III, parts i-iv. Extracts from the [preliminary] report of Lieut. A. W. Whipple [assisted by Lieut. J. C. Ives], Corps of Topographical Engineers, upon the route near the thirty-fifth parallel.

²This mountain is incorrectly located on the United States Land Office map. It stands on the Baca Grant.



VIEWS IN BIG BURRO CANYON

Oaks and Willows, keeping this mountain on the right, a fairly clear trail continues to a deserted ranch, marked by a ruined stone chimney and a corral, at the head of Burro Creek. Here, at the terminus of all wagon roads, among magnificent pines, is a pool of water; beyond, the traveler may continue on horseback to the Big Burro (pl. 94), one of the large canyons of this region.

Following Bill Williams River westward to its junction with the Colorado, no ruins on hilltops were seen by Wheeler's party, but at Yampai Spring, near the former river, the lower side of a high shelving rock forms, according to Whipple's report, a cave the walls of which are "covered" with pictographs.

The former habitations of the Walnut Creek aborigines were doubtless constructed after the manner of *jacales*, supported by stone or adobe foundations, a common feature of most of the ruins herein described. Entrance to these inclosures must have been difficult, as the doorways no doubt were guarded and many of the passages were devious, a defensive measure quite commonly adopted in the palisaded houses of the tribes bordering the Colorado River. The Indians along this river, mentioned by Don José Cortez in 1799 as the Cajuenche and the Talliguamays (Quigyuma), erect their huts in the form of an encampment, inclosing them with a stockade. According to the same author, the Cuabajai (Serranos), another tribe, built their towns ("rancherías") in the form of great squares, each provided with two gates, one at the eastern, the other at the western end; here sentinels stood. The dwellings consisted of huts constructed of limbs of trees.

A typical ruin of the Walnut Creek Valley is thus referred to by Whipple (op. cit., pt. 1, p. 93):

Lieutenant Ives and Doctor Kennerly to-day ascended a peak 300 or 400 feet high, the last in the ridge that bounds and overlooks the valley of Pueblo [Walnut] Creek, some 3 miles below camp, and found upon the top an irregular fortification of stone, the broken walls of which were 8 or 10 feet high. Several apartments could be distinctly traced, with crumbling divisions about 5 feet thick. From thence to the pueblo, upon the gravelly slopes that lie slightly elevated above the bottom lands of the creek, there are, as has before been noted, vast quantities of pottery, and what appear to be dim traces of the foundations of adobe walls.¹ It would seem, therefore, that in ancient times there existed here a large settlement, and that the inhabitants were obliged to defend themselves by strong works against attacks from a powerful enemy.²

No excavation was attempted by the author in the Walnut Creek region but his attention was drawn to human bones that had been

¹ An important observation, as most of the dwellings were built on stones which formed their foundations. The adobe walls and the posts and wattling supporting them have now disappeared, the foundation stones being all that remain of the buildings.—J. W. F.

² The "old chief" told Alarcon of great houses of stone inhabited by a warlike race. These people were said to live near a mountain and to wear long robes sewed with needles of deer bone. Their fields of maize were small.—J. W. F.

found in the ruins on the river terrace above Mr. Ainsworth's ranch and in the neighborhood of Mr. Peter Marx's house. Although, as is commonly the case, the fragments of skeletons are locally supposed to have belonged to giants, the few bones examined by the author were of the same size and had the same general characters as those found elsewhere in the Southwest. Rings of stones indicating human burials are prominent just outside the fort above Mr. Shook's house and in the gravel of the river terrace not far from the residence of Mr. Ainsworth.

FORT BELOW AZTEC PASS

A short distance from Mr. William Johnson's ranch house on the road to Drew's ranch, on the right bank, rises a steep hill, 100 feet high, on which is situated the best-preserved fort in the Walnut Creek region. This is probably the "pueblo" mentioned by Whipple, possibly one of the structures that gave the name Pueblo Creek to the

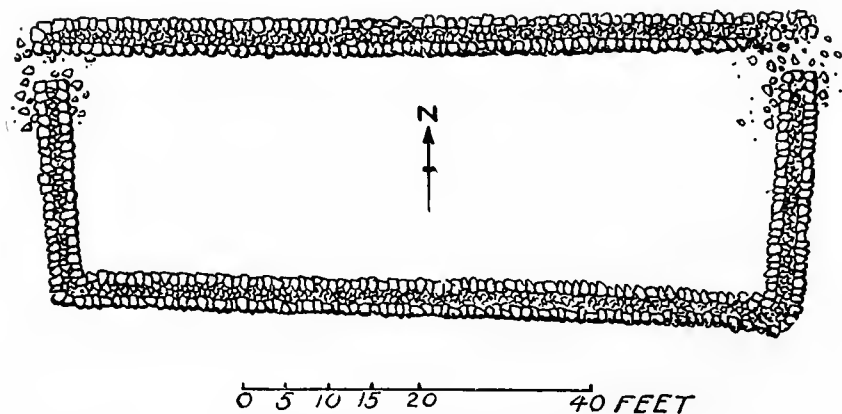


FIG. 65. Ground plan of fort below Aztec Pass.

stream now called Walnut Creek. The fort commands a view up and down the valley from Aztec Pass to the fort near Shook's ranch, and beyond.

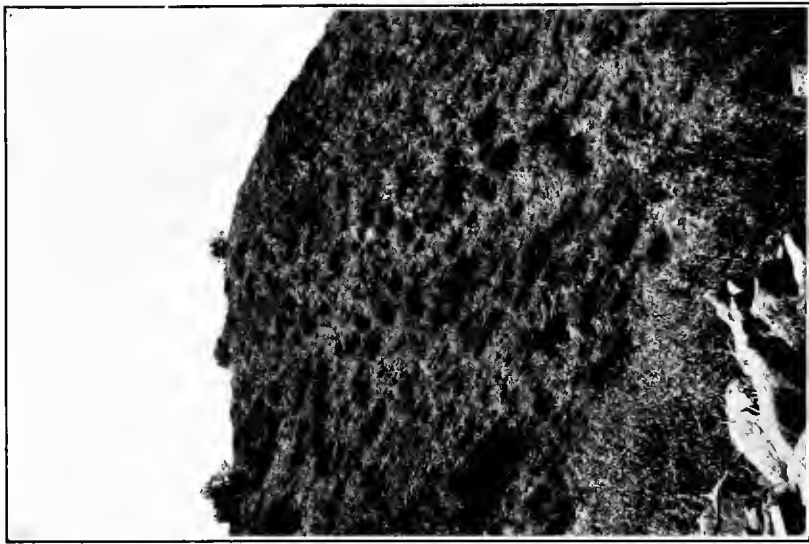
The accompanying illustrations (pls. 95-97) show the present appearance of this fort and the steepness of the hill from the side toward Walnut Creek; on account of the trees on the summit the ruin is almost invisible.

The walls are oriented east and west (fig. 65), the northern and southern sides being the longer. Although seemingly rectangular in outline, the northern side, measuring (inside) 80 feet in length, is 5 feet longer than the southern side. The eastern and western sides are respectively 30 and 25 feet in length. The average thickness of the walls is 4 feet and their height 6 feet.

At present the walls are in almost the same condition as when constructed. Except at the northeastern and northwestern corners,



NEAR THE MOUTH OF GRANITE CREEK



BELOW AZTEC PASS

RUINS OF TWO ANCIENT FORTS



FORT BELOW AZTEC PASS



FORT BELOW AZTEC PASS



NEAR AINSWORTH'S RANCH



NEAR AINSWORTH'S RANCH



ON MARX'S RANCH

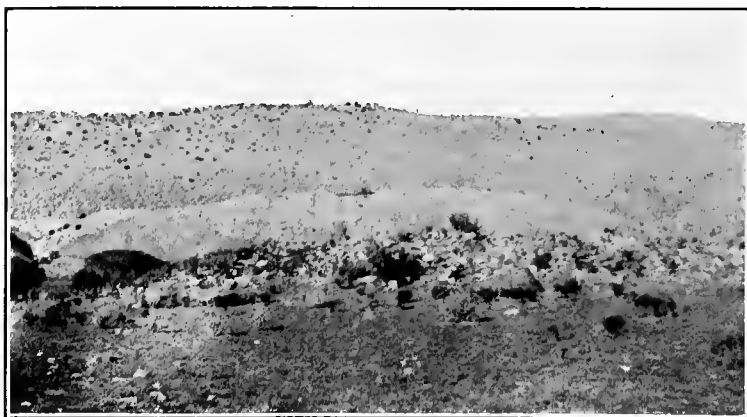
TERRACE-RUINS IN WALNUT VALLEY



FORT OVERLOOKING SHOOK'S RANCH



FORT OVERLOOKING SHOOK'S RANCH



RUIN ON MESA AT BAKER'S RANCH

WALNUT VALLEY RUINS

where the entrances to the inclosure were situated, only a few stones have fallen. All the walls are made of small rough stones laid without mortar, the largest stones for the greater part forming the foundation; the walls slant slightly inward, as is noticeable in the corner shown in plate 96 (bottom). A cross section of the broken wall reveals the fact that large stones were used in construction on the inside and the outside facings, the intermediate section being filled in with smaller stones—a common mode of mural construction in the Walnut Creek and other regions.

RUINS NEAR DREW'S RANCH HOUSE

A short distance from Mr. Drew's ranch house,¹ now (1911) deserted, are several level terraces on which are small stones arranged in squares in rows, and other evidences of former aboriginal habitations. A considerable quantity of pottery fragments is also to be found, indicating that the few level areas in this vicinity were once occupied by man. Rings of stones like those near the Ainsworth ranch house, from which fragments of human bones had been excavated, are supposed to mark the sites of burial places.

RUINS NEAR AINSWORTH'S RANCH HOUSE

It may safely be said that wherever in the Walnut Creek Valley land well situated for cultivation may be found, there may be expected also evidences of occupancy by former inhabitants, either remains of houses or irrigation ditches, or pictographs. Most of these habitations are situated on the low river terraces or tongue-shaped gravelly mesas that project into the valley. The sites of the ancient farms are difficult to determine, for the reason that, as before explained, the continually changing stream has modified more or less the bottom lands along its course.

From some of the best of these ruins (pl. 98), situated near Mr. Ainsworth's house, human skeletons, fragments of pottery, and other evidences of former human occupancy have been obtained. The sites of the houses are indicated by rows of boulders,² which in some places are arranged in circles.

RUINS NEAR SHOOK'S RANCH HOUSE

One of the largest forts in the Walnut Creek region overlooks Shook's ranch, from the summit of a lofty hill on the left bank of the creek. This fort (pl. 99), which is visible for a long distance up

¹ Drew's ranch is the last white man's home encountered on the way up the valley, before the road ascends the hill to Aztec Pass. Walnut Creek divides at a point near level areas showing evidences of cultivation. The country is well wooded, forming part of the Prescott National Forest, the ranger of which lives near old Camp Hualapai.

² Resembling the so-called "boulder sites" in the middle and lower Verde Valley, described by Cosmos Mindeleff.

and down the stream, is the first of the series seen on entering Walnut Valley from Simmons post office.

This ruin (fig. 66) is nearly rectangular in shape, measuring 103 feet on the western side, 87 feet on the eastern, 118 feet on the northern, and on the southern, the side overlooking the river, 100 feet. The

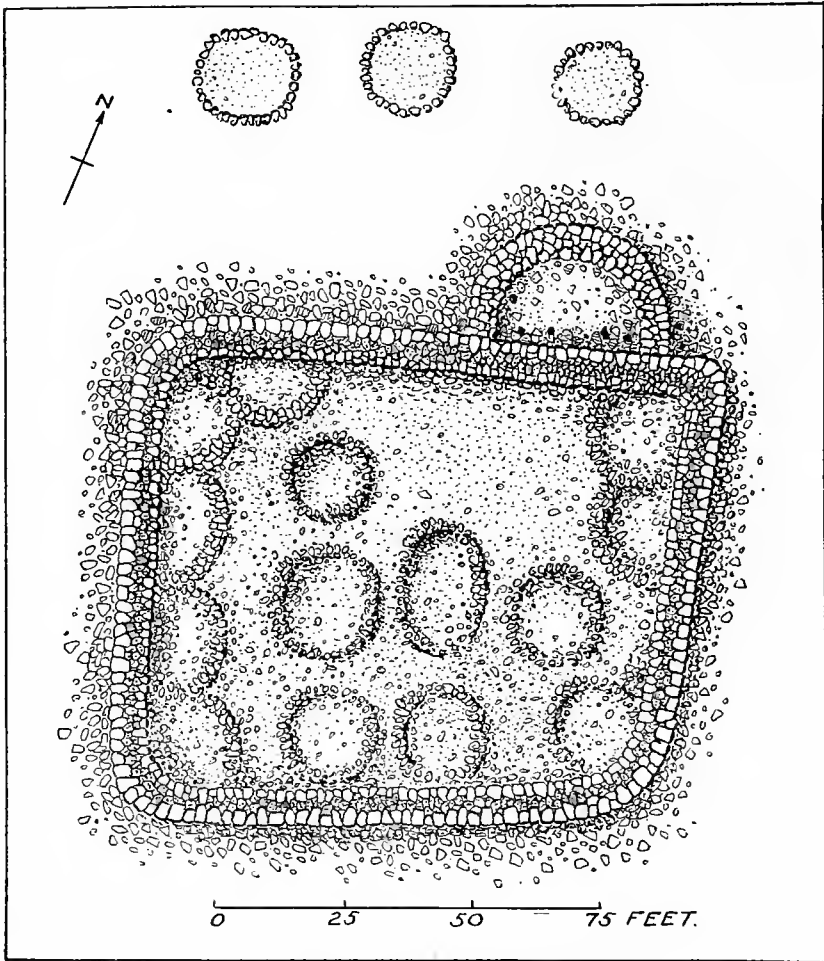


FIG. 66. Ground plan of fort overlooking Shook's ranch.

inner and outer faces of the walls are composed of large stones, the space between them being filled with rubble.

The fallen walls within the inclosure indicate the former presence of many buildings, some circular in form. Rings of stones, averaging 16 by 13 feet in diameter, are found just outside the fort, on the side facing the river, where the ground is level.

Directly across Walnut Creek from Shook's ranch house, not far from the ford and overlooking the valley, on a low, gravelly river terrace, are the remains of a quadrangular wall, oriented approximately north and south (fig. 67). The northern side of this quadrangle is 100 feet in length, the southern 93 feet, the western 125 feet, and the eastern 143 feet. The walls are composed of rows of stones, rising at no point very high above the present surface of the ground. Mr. Shook, the owner of the ranch on which this ruin is situated, informed the author that formerly this wall was higher, stones having been removed for use in the construction of buildings across the stream.

In the middle of this quadrangle is a low, flat-topped mound, about 4 feet in height, measuring 94 feet in length by 17 feet in width. The relation

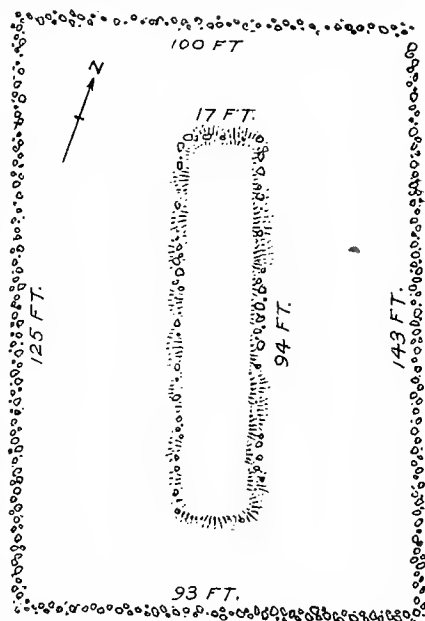


FIG. 67. Ground plan of terrace-ruin near Shook's ranch.

of this interior structure to the surrounding wall suggests the massive-walled building of a compound, as described in the author's account of Casa Grande, in this volume.

RUIN NEAR MARX'S RANCH HOUSE

Artificial mounds are found on terraces among the cedars on the right bank of Walnut Creek almost to its mouth. One of these mounds, opposite Mr. Peter Marx's house, is particularly interesting.

This ruin (pl. 98) consists of two parts—a rectangular inclosure, oriented north and south, and a nearly circular mound about 100 feet to the west. The former (fig. 68) measures 28 feet on the northern and 23 feet on the southern side; the eastern side is 65 feet long, and the western 63 feet. The two axes of the mound measure, respectively, 72 and 77 feet. Large ancient cedars grow on the mound and also within the rectangular inclosure.

The decorated pottery found here varies in color and design. For the greater part it consists of white ware bearing black decorations. The designs are geometrical patterns, mostly terraced figures, squares,

and parallel lines. Fragments of coiled ware, which is very rare in the Walnut Creek region, have been unearthed in these ruins. There are also many fragments of coarse, undecorated ware.

Many artificial mounds are found in the cedars on terraces on the right bank of the creek. One of these is situated on the bank of the creek opposite Mr. Marx's house.

Not far from the terrace on which these mounds are situated the course of a prehistoric irrigation ditch can be traced about 100 feet, and several distinct pictographs (pl. 101) may be seen.¹

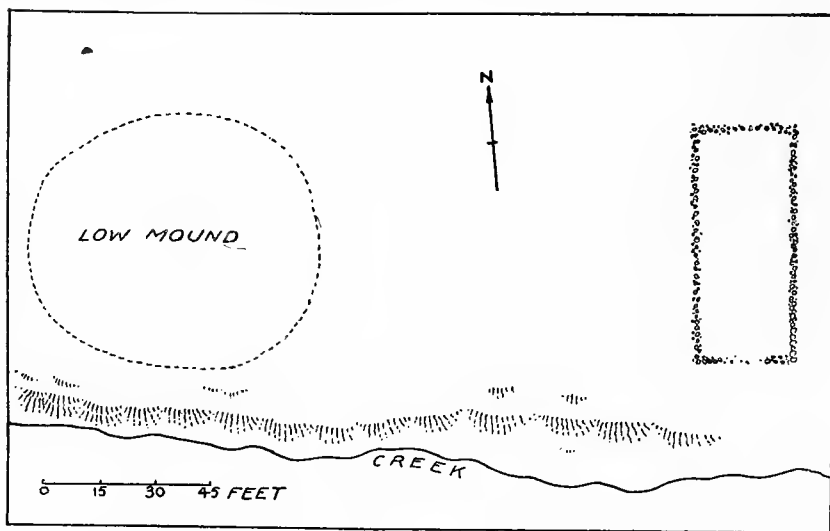


FIG. 68. Ground plan of terrace-ruin on Marx's ranch.

RUIN NEAR SHEEP CORRAL, BELOW MARX'S RANCH

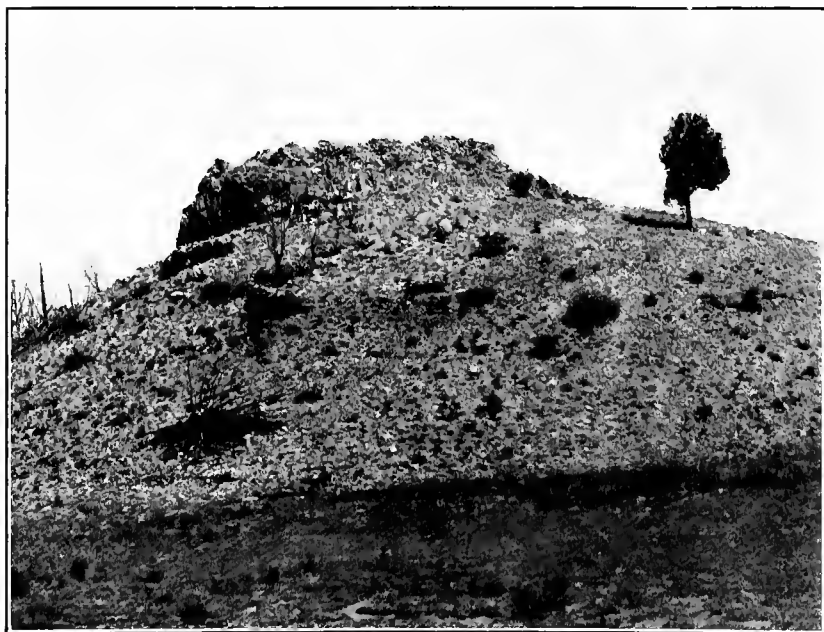
About a mile and a half from the Marx ranch stands a ruin about 50 feet above the creek, on a tongue of land projecting eastward, overlooking a deep canyon on the south and a more gradual decline toward Walnut Creek on the north. The remains indicate the former presence of a block of rooms, or row of houses, 52 feet long by 17 feet wide. Four rooms with low walls, none of which was more than a single story in height, can be plainly traced.

The numerous fragments of pottery strewn over the ground outside the walls afford evidence of the occupancy of this structure for a considerable period; it served as both a post of defense and a permanent residence.

¹ The pictographs of western and southern Arizona are characteristic, differing from those made by Pueblos. In places are piles of rocks, each bearing one pictograph.



FROM THE NORTH



FROM THE SOUTH

RUIN SIX MILES BELOW MARX'S RANCH



PICTOGRAPH ON BOWLDER AT MARX'S RANCH



FORT NEAR BATRE'S RANCH



PICTOGRAPHS NEAR BATRE'S RANCH

FORT AND PICTOGRAPHS

RUIN SIX MILES BELOW MARX'S RANCH

A ruined fort (pls. 85, 100) occupies a low limestone hill a short distance from the right bank of the river, where the valley widens somewhat before opening into Chino Valley. There was no running water in the stream in October, and possibly this condition exists at other times. On account of the level character of this region the fortification is visible a considerable distance from every direction.

The walls, which are more or less broken down, cover the whole top of the hill. The general ground plan of the surrounding wall is roughly oval, its longer axis extending north and south; there is an entrance at the north. The periphery of the wall measures approximately 227 feet. While a large part of the walls of rooms within the inclosure have fallen, so that they can not well be traced, a considerable section still remains, forming near the doorway what appears to have been an entrance.

The habitations dependent on this fort can be traced nearer the creek bed. On an island farther down stream are walls of another ruin.

FORT ON INDIAN HILL NEAR PRESCOTT

On the summit of a symmetrical eminence, known as Indian Hill, not far west of Prescott, is a fort similar in construction to the forts overlooking Walnut Creek. The walls are extensive and in places well preserved, but a considerable section has fallen. No fragments of pottery were found here.

In the vicinity of Thumb Butte, another eminence near Prescott, are pictographs not unlike those found in the Walnut Creek region.

Remains of other Indian structures and settlements occur at various places near Prescott; these show that the aboriginal culture of this vicinity had many points in common, if it was not identical, with that of Chino Valley and the Walnut Creek region.

Along Hassayampa and Granite Creeks and in Agua Fria and other valleys is found the same type of ruins, none of which are those of true pueblos.

FORTS NEAR FROG TANKS, AGUA FRIA RIVER

There are many forts and river-terrace ruins on the Agua Fria and other streams that head in the mountains about Prescott and flow into the Salt and the Gila. Those on the Agua Fria near Frog Tanks are typical.

About a mile up this stream, near the Batre mineral claim, where the valley widens into a level area, or bar, rises a prominent hill crowned by the remains of an old fort (pl. 101). The walls here have fallen to so great an extent that it is almost impossible to trace the ground plan of the ruin. There appears to have been a citadel,

or central building, higher than the surrounding structure, at the very top of the hill, in the midst of a level inclosure, protected by a wall, while fragments of other walls are found on the sides of the hill.

About 3 miles down the river from Frog Tanks stand several ruins still more important than that just mentioned. One of the most imposing of these is on the right of the road to Glendale, on an upheaval of rocks the tops and sides of which are surrounded by many walls of stone, as shown in plate 102. These walls are nowhere very high, but the sides of the outcrop are so steep and the walls so numerous that it is evident the place was a well-fortified stronghold.¹

Near a ranch about a mile away are many mounds, evidently remains of houses and surrounding walls, indicating the former existence of an inclosure of stone, resembling a compound. Many specimens of stone implements, fragments of pottery, pictographs on scattered boulders (pl. 101), and other examples of aboriginal handiwork are said to have been found in this locality. The site of these mounds is a gravelly river terrace like that of the rancherias of Walnut Creek. Each locality has a place of habitation, and a fortified place of refuge in case of attack—the two essential features of ancient aboriginal settlements in this part of Arizona.

CONCLUSIONS

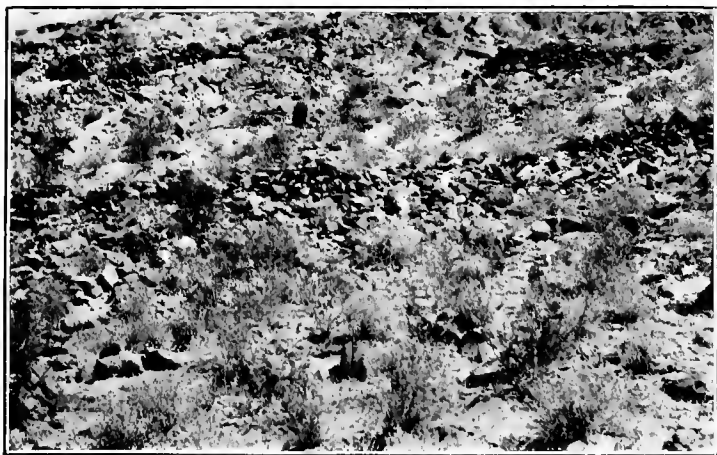
KINSHIP OF EARLY INHABITANTS OF WALNUT CREEK AND UPPER VERDE VALLEYS

Very little is known of the kinship relations of the aborigines who inhabited the caves and erected the buildings now in ruins in the upper Verde and Walnut Creek Valleys. From traditional sources it seems probable that some of their descendants, of mixed blood, are to be looked for among the Yavapai, Walapai, and Havasupai tribes. The Hopi also claim, however, that certain of their clans once lived in the Verde Valley, and there are archeological evidences in support of this. The structures whose ruins lie to the west of the upper Verde, and those situated in the Chino, Williamson, and Walnut Creek Valleys, are probably too far west to have been the product of Hopi clans; but although their former inhabitants were not Pueblos they built dwellings similar in type to those of the latter.

According to Whipple, Ewbank, and Turner¹ (Pacific Railroad Report, vol. III, pt. 3, pp. 14-16, Washington, 1856)—

The vast region toward the south [of San Francisco Mountains], lying between Rio Verde and the Aztec Range of mountains, is occupied by Tontos; while west and northwest of that range, to the mouth of Rio Virgen, are found a tribe calling themselves Yabipais, or, as sometimes written, Yampais. Their numbers are estimated at 2,000 each. Leroux and Savedra believe these three to be allied tribes; but there exists some doubt upon the subject. The language of the latter proves that they have

¹ The writer's attention was drawn to this ruin by Mr. Batre, who has extensive mineral claims in this neighborhood.



TRINCHERAS AT FROG TANKS RUINS

an affinity with the Mojaves and Cuchans of Rio Colorado; while, according to Don José Cortez, the Tontos belong to the Apache Nation. I have myself found Tonto villages intermingled with those of Pinal Leñas, north of Rio Gila, with whom they lived on friendly terms, with like customs and habits; except that they subsisted almost exclusively upon mescal and piñones . . . and possessed none of the fruits of agriculture. Yet the country they now occupy shows traces of ancient acequias, and has extensive valleys of great fertility . . .

The tribe that now occupies the region from Pueblo Creek to the junction of Rio Verde with the Salinas is called Tonto. The word in Spanish signifies *stupid*, but Mexicans do not apply that signification to these Indians; on the contrary, they consider them rather sharp, particularly at stealing. Therefore, as it is not a term of reproach, we may reasonably suppose that, as is frequently the case, it is the Indian name corrupted, perhaps, by Spanish spelling. . . . Don José Cortez, as may be seen in chapter vi, calls them Apaches; but Sevedra [*sic*], who is a well-informed Mexican, and, having been much among wild tribes of Indians, is generally considered authority in whatever relates to them, says that Tontos are Indians of Montezuma, like those of the pueblos of New Mexico. Pimas, Maricopas, Cuchans, and Mojaves, also, he adds, belong to the same great nation. In proof of this, he asserts that they all have one custom—that of cropping the front hair to meet their eyebrows, . . . suffering the rest, back of their ears, to grow and hang down its full length.

In the present uncertainty as to the ancestors of the three or more tribes that inhabited the Walnut Creek region from the time the first Spaniards entered the country to the advent of the exploring parties whose reports are here quoted, it is not possible to reach a final opinion with regard to the kinship of these people. The sedentary tribes that once lived in the region have been modified, in so far as their consanguinity is concerned, by intermixture with nomadic peoples (Apache and other tribes). The archeologic evidences indicate that they had close affinity to the Mohave and Colorado River tribes and to those living about Prescott and along the northern tributaries of the Salt River. In order to estimate the value of this evidence, a few fortified hills near Prescott were visited and a preliminary examination of similar structures at the mouth of Agua Fria was made.

The ruins on the terraces along Walnut Creek are similar to those on the Verde, the "boulder sites" of Mindeleff, who thus refers to them:¹

It seems quite likely that only the lower course or courses of the walls of these dwellings were of bowlders, the superstructure being perhaps sometimes of earth (not adobe) but more probably often of the type known as "jacal"—upright slabs of wood plastered with mud. This method of construction was known to the ancient pueblo peoples and is used today to a considerable extent by the Mexican population of the southwest and to a less extent in some of the pueblos. No traces of this construction were found in the boulder-marked sites, perhaps because no excavation was carried on; but it is evident that the rooms were not built of stone, and that not more than a small percentage could have been built of rammed earth or grout, as the latter, in disintegrating leaves well-defined mounds and lines of débris.

It is probable that the boulder-marked ruins are the sites of secondary and temporary² structures, erected for convenience in working fields near to or overlooked by them and distant from the home pueblo. The character of the sites occupied by

¹ Mindeleff, *Cosmos*, Aboriginal Remains in Verde Valley, Arizona, in *13th Ann. Rep. Bur. Ethnol.*, p. 237.

² It seems to the author more probable that these were permanent dwellings, as viewed in the light of corresponding structures on Walnut Creek.—J. W. F.

them and the plan of the structures themselves support this hypothesis. That they were connected with the permanent stone villages is evident from their comparative abundance about each of the larger ones, and that they were constructed in a less substantial manner than the home pueblo is shown by the character of the remains.

The resemblances of forts and accompanying habitations of the upper Verde and Walnut Canyon to those about Prescott, on Granite Creek, the Hassayampa, Agua Fria, and in other valleys of northern and central Arizona, and to similar structures in the valleys of the Gila and Salt and their tributaries, have led the author to include the structures of the first-named group in a culture area which reached its most specialized development in the neighborhood of the present towns of Phoenix and Mesa City, and at Casa Grande.

It is the author's conviction that the people who built the forts and terrace habitations¹ on Agua Fria, Hassayampa, and Granite Creeks were the "frontiersmen" of those who occupied formerly the Gila and Salt River Valleys, where they constructed the great compounds, or communal buildings, like Casa Grande.

Clans of these people migrating northward met other agricultural tribes which had drifted from the Rio Grande pueblo region to the Little Colorado and its tributary, Zuni River, and became amalgamated with them. Lower down the river they settled at Homolobi, near Winslow, which later was abandoned, some of the clans continuing northward to the Hopi mesas. These people, the ancestors of the so-called Patki clans of the modern Hopi, followed in their northern migrations the Tonto and Verde Rivers. Some of those who went up the Verde branched off to the Little Colorado, but others continued along the banks of the former stream, sending offshoots along its upper tributaries, and at last entered the Chino Valley, where they met clans moving eastward. Many northern migrants followed the Hassayampa and the Agua Fria. As these clans entered the mountain canyons, measures for protection necessitated construction of the many hilltop forts and other defenses whose remains are still found.

The general characteristics of the *trincheras* on Walnut Creek and the upper Verde suggest similar structures overlooking the valleys of the Gila and Salt. There are of course in the Walnut Creek area no large "compounds" with walls made of natural cement (*caliche*), for this region does not furnish material adapted to such construction.

The *trincheras*,² like those near Caborca and Magdalena in Sonora, or Chakyma near Tucson, closely resemble the fortified hilltops along the Agua Fria, at Indian Hill near Prescott, and in the Chino, upper Verde, and Walnut Creek sections. Associated with these defenses are found on the terraces along the rivers in these regions rows of foundation stones, from which once rose walls of mud on a frame-

¹ There are also remains of irrigation ditches in this neighborhood.

² The "fort" is for the greater part a more compact structure than the *trinchera*; it is more nearly rectangular in form but the walls of the two types are practically identical in character.

work of posts and wattling, the remains of houses not unlike in construction certain former habitations at Casa Grande.¹

In other words the ancient people of these regions seem to have constructed two kinds of buildings—forts on the hilltops and fragile habitations on the river terraces, which differed structurally and were occupied for special and distinct purposes. The former were defensive retreats for use in case of attack, the latter permanent domiciles or habitations, conveniently situated on terraces adjacent to farms. The same or an allied people erected also houses in natural caves or excavated them in soft rock. Dwellings of the latter kind are found particularly in the area on the border of the Pueblo region, especially where the character of the rock lent itself to their construction. The inhabitants apparently had no kivas (rooms especially devoted to religious ceremonies), but they probably had a complicated ritual. Terraced ruins are rare or unknown.

It appears that the dwellings of these people belong to a special type distinct from the terraced compact community houses, or pueblos, still represented among the Hopi, the Zuñi, and the numerous Pueblos of the Rio Grande, although identical with some ancient houses in New Mexico. It is not strange if some of the descendants of clans formerly peopling this area have become amalgamated with the Hopi. In ancient times, however, the two cultures were as distinct, for instance, as are the present Havasupai and the Hopi, and in certain areas one of these cultures antedated the other. The Hopi and the Havasupai are friends and visit each other, and at times the Hopi allow some of the Havasupai to enter their kivas.

The two types of artificial caves used as domiciles have been distinguished elsewhere as those with vertical and those with lateral entrances. Both types may possess walled buildings above or in front of them, the cave becoming in the former case a storeroom, in the latter a rear chamber, possibly devoted to ceremonies.

The association of walled buildings with artificial caves is quite general, the former being found either on the talus below or on the cliff above the latter, as well shown in the cavate dwellings on Oak Creek. A similar duality in cave-dwellings occurs in the case of some of the larger cliff-houses, as, for example, those in Canyon de Chelly. This duality is parallel with that existing in the forts and rancherias or terrace (boulder) sites on Walnut Creek.²

AGE OF WALNUT CREEK AND VERDE VALLEY RUINS

It does not appear from evidences presented thus far that any considerable antiquity can be ascribed to the aboriginal structures in the Walnut Creek region, which were probably in use in the middle

¹ See Prehistoric Ruins of the Gila Valley, in *Smithsonian Miscellaneous Collections*, vol. 52, pt. 4.
² Massive-walled buildings for protection and fragile-walled habitations exist together within the inclosures of Gila Valley compounds, presenting the same dual combination, architecturally speaking.

of the seventeenth century. There are no extensive piles of débris in connection with most of the ruins, and the buildings are not very different from those which were inhabited in other parts of the Southwest, as in the San Pedro Valley, when Father Kino passed through it in 1610.¹ Nothing found in these ruins indicates a development of arts superior to those of the tribes that inhabited western Arizona when they first were visited by white men.

The supposition that the forts herein described were built by nomads does not rest on satisfactory evidence. Moreover, the manufacture of pottery is not an industry of wandering tribes, and the designs on fragments found in this region, although different in minor details, belong, as a whole, to a sedentary people allied to ancient Pueblos and cliff-dwellers. There seems no reason to question legends of the Walapai that their ancestors built and inhabited the now-ruined buildings scattered over the region herein treated, and were driven out by tribes with which they afterward amalgamated. It appears that the ancient inhabitants did not burn their dead, for unburned human bones have been found at several points in Walnut Valley. So far as it may be accepted as evidence, absence of cremation seems to connect them with certain modern Pueblos rather than with cliff-dwellers and with those of Yuman stock and the ancient people of the Gila, who both inhumated and burned their dead.

It is hardly possible that the former inhabitants of these valleys were completely destroyed by invaders, although it is probable that they were conquered, a condition which may have led to an admixture of Athapascan blood with a corresponding change in physical features. Their language, customs, and beliefs were similar to those of the Yuma or kindred Colorado River tribes; their buildings, pottery fragments, and other artifacts point to a sedentary rather than to a nomadic people and connect them with both the Pueblos and the inhabitants of the Colorado Valley. While the relationship with the Pueblos is apparent, it is more distant than their kinship with the ancient inhabitants of the valleys of the Gila and the Salt. A duality of building types occurs throughout the Pueblo region of New Mexico, where are found domiciliary structures like those along Walnut Creek. At times, and not without good reason, these have been interpreted as pre-Pueblo buildings, and some have gone so far as to designate them as belonging to a pre-Pueblo culture. Their likeness to the buildings of the western region is apparent, and they well may be regarded as representing a lower culture stratum. Trincheras are rare in the Pueblo region, and true pueblos (compact terraced community houses) have not yet been found west of the upper Verde, facts sufficient to divide the two regions into distinct culture areas.

¹ The pueblos on the Little Colorado west of Zuñi were inhabited in the middle of the seventeenth century. In 1604 Oñate found Mohoce (the Hopi pueblos) 12 to 14 leagues west of Zuñi, and in 1632 the missionary Letrado was murdered on his way to the Cipias (Tsiptakwe), who apparently lived at the mouth of Cheylon Fork, west of Cibola (Zuñi).

